FEB 3 1928

Medical Library

Medical Times

THE JOURNAL OF THE AMERICAN MEDICAL PROFESSION

A Monthly Record of Medicine, Surgery and the Collateral Sciences

Published by THE MEDICAL TIMES COMPANY at 95 Nassau Street

57 Years of Faithful Service

Established 1872 Entered as second class matter Nov. 9, 1901, at the post office of New York, New York, under the Act of March 3, 1879.

Vol. LVI, N. 2 **New York** **Twenty-Five Cents a Copy Two Dollars a Year**

MEDICAL PROGRESS NUMBER

(Concluded)

In This Issue

Brain
Dr. Arthur MacDonald

Review of Advances in Obstetrics and Gynecology
Harvey B. Matthews, M.D., and Vincent P. Mazzola, M.D.

A Retrospect of Surgery
Aimé Paul Heineck, M.D.

Progress in Venereal Disease Control
Walter M. Brunet, M.D.

Complete Index to Reading Pages on Page 17

FEBRUARY, 1928

Coated Tongue and Toxemia

Coating on the tongue consists of epithelial cells, molds, yeast and many bacteria, some highly virulent. Normally the saliva prevents growth of the latter. If the resistance of the blood is lowered, the saliva loses its germ-destroying and inhibiting power. A tongue coating appears.

In the constipated colon, putrefactive bacteria produce highly active poisons such as skatol, indol, etc. These enter the blood, lower its resistance and thus weaken all fluid secretions such as the saliva. No wonder 85% of all sick people have coated tongues. Constipation is almost universal among the sick.

If the tongue indicates toxemia, prescribe Nujol—the safe and effective treatment.

Many intestinal toxins are themselves absorbed by Nujol. Once absorbed by Nujol, they cannot be absorbed by the system, as Nujol itself is non-absorbable.

Nujol

REG. U.S. PAT. OFF.

Medical Times

THE JOURNAL OF THE AMERICAN MEDICAL PROFESSION

A Monthly Record of Medicine, Surgery and the Collateral Sciences

Vol. LVI, N. 2 | New York, February, 1928 | Twenty-Five Cents a Copy Two Dollars a Year

Board of Contributing Editors

WM. G. ANDERSON, M.Sc., M.D., DR.P.H....New Haven, Conn.
JOHN W. BOWLER, A.M., M.D. .....Hanover, N. H.
HENRY CLARK COE, M.D., F.A.C.S.....New York
EDWARD E. CORNWALL, M.D., F.A.C.P.....Brooklyn, N. Y.
CHARLES J. DRUECK, M.D. .....Chicago, Ill.
LIEUT. JOHN DUFF, JR., Medical Corps....United States Navy
KENNON DUNHAM, M.D. .....Cincinnati, O.
W. L. ESTES, M.D. .....South Bethlehem, Pa.
HAROLD HAYS, A.M., M.D., F.A.C.S.....New York
AIMÉ PAUL HEINECK, M.D. .....Chicago, Ill.
WALTER J. HIGHMAN, M.D.....New York
HARVEY BURLESON MATTHEWS, M.D., F.A.C.S..Brooklyn, N. Y.
EDWARD H. MARSH, M.D.....Albany, N. Y.
ROBERT T. MORRIS, A.M., M.D, F.A.C.S.....New York
HENRY T. MORTON, M.D., F.A.C.S.....Brooklyn, N. Y.
D. G. MACLEOD MUNRO, M.D., M.R.C.P. (Edin.)..London, Eng.
GEORGE THOMAS PALMER, M.D. .....Springfield, Ill.
VICTOR C. PEDERSON, M.D., F.A.C.S.....New York
JOHN O. POLAK, M.Sc., M.D., F.A.C.S.....Brooklyn, N. Y.
JOHN PUNTON, A.M, M.D.....Kansas City, Mo.
DUNBAR ROY, M.D. .....Atlanta, Ga.
ALBERT H. SHARPE, M.D.....Ithaca, N. Y.
JOHN W. SHUMAN, M.D., F.A.C.P.....Los Angeles, Calif.
JOHN P. SPRAGUE, M.D.....Chicago, Ill.
OLIVER L. STRINGFIELD, B.S., M.D.....Stamford, Conn.
ALMUTH C. VANDIVER, B.S., LL.B.....New York
REYNOLD WEBB WILCOX, M.D., LL.D., D.C.L....Princeton, N. J.

Brain

DR. ARTHUR MACDONALD

Washington, D. C.

The brain is a mere extension of the spinal cord; both are of one piece. The spinal cord is fundamental, while the brain is more or less accidental. Though the brain be an adventitious part of the spinal cord, it has, nevertheless, become the head of the nervous system, and is different enough to have a separate name.

Though the brain often has great relative bulk and high complexity, it must be remembered (Piersol) that the spinal cord is the fundamental and essential part of the nervous axis, so that the degree to which the brain is developed is accidental, being dependent upon the necessities of the animal in the use of the higher nervous functions.

Though from the point of view of nature, the brain is an accidental growth, from the human viewpoint, it is all important, being the basis of mind, the highest function in man.

In consonance with this idea of the accidentality of the brain, from the point of view of nature, is the opinion of a specialist (Bolton) that the extreme end of the frontal lobe, which is the seat of the higher processes of association, is the last region of the brain to be evolved, but the first to undergo dissolution in mental decadence or dementia. In amentia this region is not developed. Also a fact of comparative anatomy may not be without significance: The spinal cord in man weighs from 1 to 1½ ounces; and relatively to the brain is as 1 to 40, but as we go down the animal scale this ratio gradually decreases, till in the mouse it is 1 to 4. In cold-blooded animals the relation is reversed and the spinal cord is the heavier; in the newt 1 to 105 and lamprey 1 to 133. Thus in the earlier and fundamental stages of nature the brain was most subordinate, if it barely existed. Now this adventitious character of the brain as a mere offshoot of the spinal cord may have its parallel in the realm of mind. Thus the furthermost development of mind might be said to consist, in the metaphysical theories of philosophers, which are also of an adventitious character, being the most complicated (like the brain), uncertain and changeable forms of consciousness. Briefly, all those activities, which are called intellectual, are the distinctive expression of the brain, as the organ of mind, which is absolutely dependent upon the brain, as far as knowledge goes.

As we shall see, in the consideration of cerebral localization (page ...), in the higher animals, including man, there is no consciousness in any part of the nervous system from which the forebrain has been cut off. That is to say, that not only thought, but consciousness itself, is absolutely limited to the brain, which exists without mind, but there is not a single instance known to science of the existence of mind without a brain.

It is further suggestive to note that in the dying hour thought and consciousness are usually the first to cease acting, while the unconscious organic functions, being fundamental, are the last to disappear.

I. Weight of Human Brain

While the statistics of brain weights have been gathered by many writers in the past, but usually by very elemental methods, the first one to study more exactly the question of variation of brain weight was Karl Pearson, of the Eugenics Laboratory in London.

Marchand, one of the pioneers in the statistics of brain weight, did not give the body weight, because, for autopsy purposes in hospitals, the weight of the subjects was too variable to consider in relation to brain weight.

Marchand's brain data indicate that the brain reaches

its full growth between ages 15 and 20, remaining constant to about age 50, and then gradually becomes less in weight. It will be noted, as we give the data, especially concerning the brain, by leading specialists, that frequently there is much variation in opinion, but it only illustrates the actual status of brain investigation, which is merely in its beginning.

In girl and boy at birth the brain is about the same in weight; the brain of the female averages a little heavier than that of the male; boy 367 grams (12 ounces), girl 396 grams (13 ounces). The relative weight of the brain to body weight in the girl is greater than in boy; thus boy, 1 to 8.3; girl, 1 to 8.0; later in life, from birth on with age and weight, the absolute brain weight increases so that up to fifteen years of age this increase is from threefold to nearly fourfold; and from this time on the absolute weight of brain is greater in man than in woman.

Table 1.—Relation of brain weight to body weight.

New born boy	1:8
End of fourth week	1:7
End of twelfth week	1:5
End of first year	1:6
End of second year	1:14
End of third year	1:18
End of seventh year	1:12
End of twelfth year	1:23
End of fourteenth year	1:15-25
End of fifteenth year	1:22

In man the maximum brain weight comes between ages 15 to 30; in woman at age 14. In higher ages the brain weight decreases in man from 60 to 70; in woman from 50 to 60; the decrease is about the same in both sexes. At age 7 the brain averages 40 ounces, and at age 14 the brain often reaches 48 ounces. Beyond age 50 the weight slowly but gradually decreases at the rate of about one ounce in ten years.

European brain weight averages from 1,350 grams (47 ounces) to 1,360 grams, or 48 ounces (Bischoff). Topinard (11,000 cases) makes 1,361 grams (48 ounces) the average for man and 1,200 grams (42 ounces) for woman.

Brains under 1,250 grams (44 ounces) in weight are abnormally small and those more than 1,550 grams (55 ounces) are abnormally large (Marchand).

A number of specialists in a series of 278 cases showed the maximum brain weight to be 1,810 grams (64 ounces) and the minimum about 960 grams (34 ounces). The mean weight from 20 to 40 years of age is, according to Boyd, 1,360 grams (48 ounces for the male and 1,230 grams (43½ ounces) for the female brain. The brain appears to be heaviest between 14 and 20 years of age, and at the age of 80 has lost 90 grams (or rather more than 3 ounces. Broca makes the average 1,421 grams (50 ounces). Spitzka showed that in distinguished men the senile decrease in weight was delayed about ten years, their average weight being 1,473 (52 ounces), 100 grams (3 ounces) above the European average.

Table 2 shows that taller persons average greater brain weight than those shorter in stature.

Table 2.—Relation of Stature to Brain Weight (Bischoff).

cubic centimeteral	cubic inches	grams	brain wt. oz.
150	9	=8.7	0.30
160	9	=8.3	0.29
165	10	=8.1	0.28
170	10.3	=7.9	0.26
180	10.9	=7.6	0.28
190	11.5	=7.1	0.24

Table 3 also indicates that those with less body weight have greater brain weight. Thus smaller men and women show a higher relative average brain weight.

Table 3.—Relation of Body Weight to Brain Weight (Bischoff).

grams	body weight oz.	per cent. brain weight
30,000	1,058	=3.7
40,000	1,411	=2.9
50,000	1,764	=2.5
60,000	2,117	=2.1
70,000	2,470	=1.9
80,000	2,823	=1.5

The specific gravity of the brain averages 1.036.

From the examination of ten brains (5 for each sex) Dahlberg found the gray matter to average 53.6 per cent of the volume of the entire cerebrum; the nuclei averaged 3.6 per cent and the white matter 42.8 per cent.

Damlewsky showed the weight of the cortex to be 33 per cent of the total weight of the brain, weighing 1,324 grams (47 ounces) and having a total surface of 169,200 square millimeters (262 square inches). Donaldson found the cortex to form about 50 per cent of the brain weight; also that the thickness of the cortex may vary from 1.55 millimeters to 3.50 millimeters (0.04 to 0.13 inches), the average being about 2.9 millimeters (0.10 inches). The average length of the brain is about 165 mm. (6.49 inches) and its greatest transverse diameter is about 140 mm. (5.5 inches). The larger and deeper convolutions are similar in the two hemispheres; most of them are individually variable, but each convolution is homologous with that of the other hemisphere. In broad-headed persons (brachycephalics) the longitudinal convolutions and transverse fissures tend to break up and thus the amount of surface, and so of gray matter, is increased relatively to the whole brain. Intelligence of normal character is probably not possible in a brain less than 32 ounces in weight. The taller the individual, the greater his brain weight, yet short people have relatively heavier brains than tall. The cerebellum is usually 1-8 of the weight of the entire brain. The cerebral cortex varies in thickness and becomes thinner in old age. The cerebellum or hind brain weighs 140 grams (5 ounces), or about 10 per cent of the entire encephalon; it averages larger in man than woman and is relatively larger in adults than children, the converse of the brain. The cerebellum has especially to do with equilibrium.

Table 4.—Average difference between brain volume and inner space of head (Rudolph, O.)

Normal Male (Adults) Ages	Average difference in percentages
17	9.6
18	5.1
18	5.6
23	9.6
25	7.0
29	5.4
32	6.0
32	7.7
33	7.9
35	5.5
37	7.0
37	9.0
40	6.4
40	8.5
43	6.1
26	6.9
48	9.1
50	9.9
51	5.7
59	7.4
64	7.1
65	8.3
65	4.3
	7.21

69	15.3
72	20.9
75	18.9
78	26.7
82	15.1
	19.3

Difference Between Brain and Skull Volume

In table 4 is given (in percentages) the average difference in adult males between the volume of the brain and the inner space of the head. This average difference is about 7 1-2 per cent, with individual variations from 5 to 10 per cent.

This difference changes little in middle life, but after the age of seventy the difference is about double; that is, 15 per cent between brain volume and cranial capacity.

In a head with a cranial capacity of 1,400 cubic centimeters (85 cubic inches) there is about 100 cubic centimeters (6 cubic inches) of free space outside of the brain, but after the age of 70 this free space has about doubled, or is about 200 cubic centimeters (12 cubic inches).

The volume of the Dura is on the average from 50 to 60 cubic centimeters (3 to 4 cubic inches).

Brain Weight and Intelligence in Animals

In general, it will be seen from table 5 below that the larger the animal, the smaller the relative size of brain. The whale's brain weighs 2,816 grams (99 ounces) and the elephant's 4,896 grams (173 ounces). While these are the largest brains among animals (table 6), their weights relative to their body weight are very small (in the elephant, 1 to 500).

From table 5 we see that small animals of the same vertebral class, as fish, amphibians and reptiles, have relative to body weight larger brains. It is generally true in animals, as in man, that the brain weight is much greater, relative to body weight, in their young age than in their adulthood.

Table 5.—Relation of Brain Weight to Body Weight (Ranke).

Little European singing bird (Sajou)	1:12	to 28
	1:13	
Hapale penicillata	1:22	
Saimiri	1:24	
Sai	1:25	
Magpie or jay	1:28	
Uisti: species of ape	1:28	
Hylobates leuciscus	1:28	to 48
German woman	1:35	
Mole, molewarp	1:36	
German man	1:36.58	
Callitrix	1:41	
Lemur anjuanesis	1:42	
Half-grown orang-outang	1:51	
Half-grown chimpanzee	1:51	
Cat	1:82	to 156
Makato	1:96	
Grown gorilla about	1:100	
Papio	1:104	to 170
Dove	1:104	
Eagle	1:160	
(Eidechse) lizard	1:160	
Frog	1:172	
Dog	1:214	to 307
Carp	1:248	
Hen	1:347	
Sheep	1:351	
Goose	1:360	to 467
Salamander	1:380	
Horse	1:400	
Young elephant	1:500	
Tiger and lion	1:500	to 600
Ox	1:500	to 800
Tadpole	1:720	
Ostrich	1:1200	
Shad	1:1837	
Handschildkroto	1:2240	
Shark	1:2496	
Sea tortoise	1:5680	
Tunny fish	1:37440	

Table 6.—Brain Weights.

	Grams	Ounces
Elephant	4896	173
Whale	2816	99
Dolphin	1775	62
	1360	48
Cattle	754	27
Horse	517	18
Sea hog	504	17
Gorilla	416	14
Chimpanzee	387	13.6
Ass	377	13.3
Orang-outang	365	12.8
Stag	335	11.8
Papion	158	5.5
Wolf	133	4.6
Hog	122	
Wild boar	117	4.1
Dog (de terre)	116	4.0
Sheep	110	3.8
Gibbon	103	3.6
Baboon	94	3.3
Dog (de berger)	93	3.2
Macaroon	73	2.57
Wildcat	72	2.54
Jackall	71	2.50
Kangaroo	53	1.8
dog	46	1.6
Dog (griffin)	45	1.58
Beaver	43	1.51
Cat	28	0.98
Rabbit	26	0.91
Ferret	8.70	0.3
Dogfish	8.00	0.27
Rat	1 to 4.00	0.03 to .14
Moles (24) average	0.96	0.02
Bat	0.65	0.01
Mouse	0.37	0.07

Birds.

	Grams	Ounces
	30.0	1.05
Goose	7.65	0.25
Parrot (male)	4.30	0.15
Parrot (female)	3.00	0.10
Magpie (male)	4.20	0.09
Magpie (female)	3.70	0.11
Rooster	2.15	0.08
Thrush	1.90	0.06
Sparrow	1.11	0.03
Canary bird	0.68	0.01
Reptiles (Batrachians)		
Crocodile (70 kilos)	15.00	0.62
Sea turtle	5.09	0.18
Land turtle	0.37	0.01
Lizard	0.05	0.006
Frog	0.01	0.003

Fish.

Shark	9.4	0.32
Pike	1.3	0.45

Notwithstanding variations, it will be seen from table 9 that there is a certain parallelism between brain weight and intelligence in animals.

The gorilla's brain (with a body weight nearly as much as man) weighs only 416 grams (13 ounces), which is less than one-third of man's brain weight, and is barely more than that of the human infant at birth.

The Rationale of Comparative Brain Weight

As a general proposition, the higher the mental faculties are developed in the vertebrates, and especially in man at different ages, as well as in different individuals, the greater is the development of the cerebral hemispheres, in comparison with the rest of the cerebro spinal system.

In the same species or class the relative brain weight is greater in species of small stature than in those of large stature. It can be said that the influence of stature, or organic mass relative to brain weight, extends throughout the animal kingdom in such a way that with equal intelligence the small species have a relative superior brain weight to the large species; also, that the species

of very small stature can excel species of very great stature and much superior in intelligence. Thus the influence of height on brain weight seems to overbalance that of intelligence. Thus the rabbit, whose brain weighs 26 grams (0.91 ounce), and the rat (much less in height), whose brain weighs one gram (0.03 ounce), are both, nevertheless, somewhat alike in intelligence.

It is natural to attach more importance to organs in proportion to their correlation with the brain. The function of nutrition, or at least locomotion, appears to be in relation with brain weight; the vegetative influence and that of locomotion over the brain weight cannot be estimated, except in animals of the same class. Thus, the crocodile, in spite of its mass and the size of its nerves, has a very small brain.

The nutrition of the brain in man is very much independent of the general nutrition of the body; thus very delicate children are often well developed cerebrally.

The small animal species are more sensitive than the larger species. The surface of the body is greater, relatively to its mass, as the body is smaller, and the sensitive nerves are relatively more developed to the volume of the body, as the height is less.

The brain, or nervous center, does not receive as numerous sensations as various and as complex in inferior animals as in the superior. Also, the brain does not receive as numerous, as various and as complex sensations in species of small stature as in those taller.

The relation existing between the surface sensitive organs and the development of the parts of the brain responding to them is shown by comparing the elephant with the dog. In the dog the sense of smell is at least as acute as in the elephant, yet its olfactive lobe is much smaller; but the olfactive lobe is connected with the volitions and movements of other organs, which in the elephant cover much more ground, so that, for this reason alone, the organ is larger, though the dog's sense of smell is more developed. Again, the elephant has a brain weighing 4,896 grams (173 ounces) and the whale 2,816 grams (99 ounces) (table). The elephant is intellectually superior, and his senses and their number are greater; the variety and complexity of his movements involve an enormous mass and numerous coordinations requiring a large quantity of nervous elements, as the variety of actions with its trunk. Thus it surpasses the whale in intelligence.

The great weight (table 5) of man's brain (1,360 grams = 47 ounces) as compared with that of the gorilla (416 grams = 14.6 ounces) may in part be explained in the comparison made between the elephant and whale. Thus in man the specialization of the thoracic organs, the many movements of the hand and movements for articulation, are more intimately connected with mental activity. Their relative volume appears to be related with the degree of influence exercised by the diverse organs over intelligence and with the degree of influence exercised reactionally by the brain over these organs. Thus, as to motor center, the brain controls less numerous, less various and less complicated movements in the inferior species.

Brain Weight and Intelligence in Man

All the results of investigation of the brain do not appear to be in accord, and some are contradictory. This is especially the case in the question of the relation of brain weight and intelligence.

In the past this relationship was doubtless unduly emphasized, but at present certain mathematical specialists maintain that the relationship is so slight that it is negligible. Thus, the pendulum has swung to the other extreme, and, as usual, the truth may eventually be found in the golden mean.

Since no brain in a head less than 11 inches in circumference has been known to function normally, and since no brain weighing less than 32 ounces has been normal, it is evident that size and weight of brain have very much to do with intelligence, at least within certain limits. But the question is, before we reach these limits, what is the degree of relationship? In short, if after certain limits in size and weight the brain absolutely conditions normal intelligence, it is difficult to believe that this relation suddenly stops and has little or no significance. For this would involve a saltus, which is contrary to nature itself. The author is further doubtful, because there is relatively so little definitely settled about the brain that can be regarded as of a fundamental nature.

In the animal kingdom, in three-fourths of cases (see tables 4 and 5), the species with the heavier brain show more intelligence, and this is especially striking when we come to man as compared with the lower animals. For, as man's intelligence is so much higher than that of the animal's, so his brain is correspondingly heavier. Thus in the animal nearest to man, as in the gorilla, the brain weight is from 400 to 500 grams (14 to 17 ounces), while in man it is from 950 to 1,800 grams (32 to 63 ounces). This certainly is a prodigious rise, or, rather, jump, the average for man being 1,350 to 1,450 grams (47 to 51 ounces), while the highest in the gorilla is but 500 grams (17 ounces). This saltus is not due to nature, but to our ignorance of the doubtless many intervening species between the highest ape and the lowest man. These species may have been permanently destroyed, or are yet to be discovered.

In a recent investigation of criminals (who differ little or none from normal beings, more than normal beings

Table 7.—Criminals (M. H. Whiting, Biometrika, Vol. 81).
Correlations of mentality with:

Age	$= -.26 \quad .041$
Temperature	$= -.25 + .020$
Pulse	$= -.22 + .030$
Respiration	$= -.14 + .031$
Height	$= -.15 + .043$
Weight	$= -.32 + .040$

By mentalities in this table is meant the weak-minded. The table shows that all the correlations are significant, and that the feeble-minded or those with less mentality have less weight, less height and age, but greater temperature, quicker pulse and respiration than the mentally normal. Congenital and other morbid defects of the brain are in general accompanied with corresponding deficiency in the range or power of the mental faculties and the higher instincts. Thus, according to Du Catte, every skull with a horizontal circumference less than 48 centimeters (18 inches) belongs to an idiot or imbecile.

Brain Weight and Political, Social or Intellectual Status

The author recently made an anthropological study of 89 Members of Congress (18 Senators and 71 Representatives). In this inquiry the weight of brain was estimated, and its degree of relationship to stature and body build was found.

Table 8.—Anthropological Study of 89 Members of Congress, with Estimated Brain Weight and its Correlations (MacDonald).

Relation of physical and mental status	Arithmetrical mean.	Standard deviation.	Coefficient correlation.
Stature	$177 \pm .41$	$5.8 \pm .29$	$.55 \pm .05$
Brain weight	1450 ± 8.2	115 ± 5.8	$.63 \pm .04$
Body build	5709 ± 36.3	515 ± 26.0	

As this is the first[1] time any legislative body was ever studied from the scientific point of view, a few details may be given. The table shows that the degree of relationship between brain weight (estimated by an equation) and stature is .55 ± .05, which is positively high, and the degree of correlation btween brain weight and body build is still higher, being .63 ± .04. The body build is obtained by dividing the chest girth (at armpits) by the stature. As body build increases we pass from slenderness to stoutness, or, rather, thicksetness. This high correlation (.63 ± .04) indicates that in general short, thickset people have heavier brains than slender persons. The correlation for height (.55 ± .05) is much higher than is usually the case, which is probably mainly due to the homogeneity of Congress. The average estimated brain weight of the 89 Members of Congress was 1,550 gram (55 ounces), which is much above the average (48 ounces).

Table 9.—Brain Weight and Occupation (Matiegha).

Occupation	Number	Brain weight in grams.	ounces
Unskilled laborers	14	1410	49
Skilled laborers	34	1433	50
House servants	14	1435	50.6
Expert workers	123	1449	51
Mental workers	28	1468	51.7
Professional workers	22	1500	52

Table 9 gives the average brain weights of 255 persons, according to the nature of their occupation. It will be seen that as the intellectual status of the occupation increases, the average brain weight increases. Though the numbers are not large, yet they are sufficient to create a probability of such tendency.

Table 10.

	No.	Average age years	Brain weight. grams	ounces
Scientists (all)	57	64	1463	51
Exact	12	67	1532	54
Natural scientists	45	63	1444	50
Artists and philosophers	25	59	1482	52
Men of action (Government officials, statesmen)	14	65	1490	53
Total	96	Average	1473	52

In table 10 it will be seen that the representatives of exact science, such as mathematics, show the highest average brain weight (1,532 grams = 54 ounces). Men of action, as statesmen and military men, come next (1,490 grams brain weight = 53 ounces), then follow artists and philosophers with a brain weight of 1,482 grams (52 ounces); and, finally, natural scientists, with a brain weight of 1,444 grams (50 ounces).

With exceptions, the intellectual status is indicated by the weight of brain. Thus the brains of men given to the most difficult intellectual thought, as in mathematics, perhaps involving the more complex mental mechanism, are shown in the exact scientists with an average brain weight of 1,532 grams (54 ounces).

Le Bon also shows 42 distinguished men with an average cranial capacity of 1,682 cubic centimeters (101c inches) contrasted with the general average of 1,559 c.c.m. (93 cubic inches). Also, 26 skulls (in the Museum of Natural History in Paris) of well known men show 1,732 c.c.m. (104 c. inches) cranial capacity.

Also, Gladstone, in a study of a boys' school and medical students shows:

[1]The author made a statistical study of the United States Senate, published in "Metron," Padua, Italy, 1923; also by "La Revista Argentina de Ciencias Politicas," VIII, 15, and by the Anthropological Society of Bombay, India, 1923.

	Boys Head Circumference mm.	in.	Medical Students Head Circumference m.m.	in.
High intelligence	541	21	572	22.5
Average intelligence	526	20.5	562	22.12
Low intelligence	515	20.2	555	21.8

In the students the height of head showed a distinct increase compared with that of head length and head breadth. Binet calls attention to the distinctly greater head measurements of highly gifted children as compared with dull children.

More than 30 years ago the author made measurements (including head circumference) of 20,000 Washington school children. This was the first time head measurements were made on a large number of children. The bright showed a distinctly higher average head circumference to the dull in head circumference for each age (table 11).

Table 11.—In inches.

Age	No.	Bright Inches	No.	Average Inches	No.	Dull Inches
8	320	20.57	326	20.57	101	20.27
9	384	20.65	340	20.64	102	20.48
10	392	20.78	355	20.74	118	20.53
11	322	20.83	386	20.85	97	20.59
12	349	20.98	459	20.93	128	20.85
13	306	21.06	421	20.98	131	21.01
14	227	21.26	371	21.24	143	21.07
15	167	21.61	220	21.41	116	21.32
16	104	21.78	144	21.67	80	21.55

When in doubt, the teachers marked the pupils average, so that we have the positively bright and dull to compare. As will be seen, for every age, the average head circumference of the bright is greater than that of the dull boys. The same is true for the girls.

These 20,000 children were divided into higher and lower classes to eliminate any influence of social status, yet the results were similar.

Parchappe (1836), Broca (1861), and, later, Lacassagne and Cliquet (1878) have shown that men whose occupations require high intelligence have larger heads. Thus Da Costa Ferreira, of Portugal, gives:

Table 11½

	Number	Cranial capacity ccm.	Greater or smaller than the average ccm.	inches
Professional people	23	1629	99	57.2	2.4
Commercial people	49	1598	97	25.9	1.5
Government clerks	11	1590	96	17.5	1.03
Private clerks	52	1584	95	12.2	0.7
Hand workers	150	1573	93	0.9	0.06
Day laborers	164	1570	93	2.7	0.15

In table 12 will be found the names of 96 distinguished men, with their occupations, ages and brain weight as given by Spitzka, collected from others. Quite a number were old men at death, whose brains had normally lessened in weight.

It is known that stature, body weight and build may influence brain weight, yet such data in many of these 96 cases are wanting, and so cannot be considered. Gambetta's brain is omitted, for it lost much of its weight through the use of a zinc chloride solution; lessening it in one hour 10 grams (0.3 ounce). Duval estimated its weight to be 1,247 grams (44 ounces) originally, it being reduced to 1,160 grams (41 ounces).

The average brain weight of these 96 distinguished persons is 1,473 (52 ounces), which exceeds the various averages for European brains by 75 to 125 grams (1 to 4 ounces). This does not allow for the advanced age of the series, the average of 92 cases (all but four) being 63 years of age.

Dividing these cases by nationalities, we have:

Table 11¾

	cases	grams	ounces
United States and Canada	21	1,518	53
British Islands	14	1,473	51
Germany and Austria	38	1,443	50
France	17	1,440	50

Table 11 3-4 would indicate that United States and Canada are distinctly of greater brain weight (1,518 = 53 ounces).

Table 12. The Brain Weights (in grams) of 96 Distinguished Personages with their Occupations and Ages.

Name	Occupation	Age	Brain Weight
Ivan Turgeneff,	Poet and Novelist	65	2012
G. Cuvier,	Naturalist	63	1830
E. H. Knight,	Physicist	59	1814
(Theologian of Freiburg	University	42	1800
John Abercrombie,	Physician	64	1786
Ben Butler,	Lawyer	74	1758
Edward Olney,	Mathematician	59	1701
Herman Levi,	Composer	60	1690
W. M. Thackeray,	Humorist	52	1658
Rudolph Lenz,	Composer		1636
John Goodsir,	Anatomist	53	1629
Hosea Curtice,	Mathematician	68	1612
C. G. Atherton,	U. S. Senator		1602
W. v. Siemens,	Physicist	68	1600
George Brown,	Editor	61	1596
A. Konstantinoff,	Litterateur		1595
R. A. Harrison,	Chief Justice, Canada	45	1590
F. B. W. v. Hermann,	Economist	73	1590
J. K. Riebeck,	Philologist	61	1580
Hans Büchner,	Hygienist	51	1560
K. Spurgheim,	Anatomist and Phrenologist.	56	1559
Edward D. Cope,	Paleontologist	57	1545
G. McKnight,	Physician and Poet	57	1545
Harrison Allen,	Anatomist	56	1531
J. Y. Simpson,	Physician	59	1531
P. Dirichlet,	Mathematician	54	1520
C. A. De Morny,	Statesman	54	1520
Daniel Webster,	U. S. Senator	70	1518
Lord John Campbell,	Lord Chancellor, England.	82	1517
Chauncey Wright,	Philosopher	45	1516
M. Schleich,	Writer and Orator	55	1503
Thos. Chalmers,	Theologian	67	1503
Garrick Mallery,	Ethnologist and Explorer.	63	1503
Edwin C. Seguin,	Neurologist	55	1502
Napoleon III,	Sovereign	55	1500
K. H. Fuchs,	Pathologist	62	1499
Louis Agassiz,	Naturalist	66	1495
C. Giacomini,	Anatomist	58	1495
De Morgan,	Mathematician	73	1494
K. F. Gauss,	Mathematician	78	1492
Ch. Letourneau,	Anthropologist	71	1490
J. W. Powell,	Geologist	68	1488
K. v. Pfeufer,	Physician	63	1488
Wülfert,	Jurist	64	1485
Paul Broca,	Anthropologist	55	1484
G. de Mortillet,	Anthropologist	77	1480
Lord Francis Jeffrey,	Justice and Editor	76	1471
L. Asseline,	Journalist	49	1468
M. D. Skobeleff,	General	39	1457
Ch. H. E. Bischoff,	Physician	79	1452
Hugo Gylden,	Astronomer	55	1452
Larmarque,	General	63	1449
F. R. v. Kobell,	Geologist and Poet	79	1445
Mihalkoviez,	Embryologist	55	1440
H. v. Helmholtz,	Physiologist	73	1440
Dupuytren,	Surgeon	58	1437
P. A. Siljestrom,	Physician and Pedagogue.	76	1422
Franz Shubert,	Composer	70	1420
A. T. Rice,	Diplomat and Editor	35	1418
J. E. Oliver,	Mathematician	65	1416
Melchior Meyr,	Philosopher and Poet	61	1415
Joseph Leidy,	Morphologist	67	1415
Philip Leidy,	Physician	53	1415
George Grote,	Historian	75	1410
Nussbaum,	Surgeon	61	1410
John Huber,	Philosopher	49	1409
C. Babbage,	Mathematician and Inventor	79	1403
Jules Assezat,	Journalist	45	1403
A. Bertillon,	Anthropologist	62	1398
Fr. Goltz,	Physiologist	68	1395
Coudereau,	Physician	50	1390
Wm. Whewell,	Philosopher	72	1389
Henry Wilson,	U. S. Vice President	61	1389
Rüdinger,	Anatomist	64	1380
Szilagyi,	Statesman		1380
H. T. v. Schmid,	Litterateur	65	1374
A. A. Hovelacque,	Anthropologist	52	1373
T. L. W. v. Bischoff,	Anatomist	76	1370
K. F. Herman,	Philologist	51	1358
Justus V. Liebig,	Chemist	70	1352
v. Schagintweit,	Naturalist	51	1352
J. P. Fallmerayer,	Historian	71	1349
John Hughes Bennet,	Physician	63	7998
Max v. Pettenkofer,	Chemist	82	1320
Seizel,	Sculptor	50	1312
J. G. Kolar,	Dramatist	84	1300
R. E. Grant,	Astronomer	80	1290
Walt Whitman,	Poet	72	1282
Robert Cory,	Physician	55	1276
Edouard Seguin,	Psychiatrist	68	1257
Fr. Tiedemann,	Anatomist	79	1254
v. Lasaulx,	Philologist	57	1250
L. v. Buhl,	Anatomist	64	1227
J. F. Hansmann,	Mineralogist	77	1226
B. G. Ferris,	Jurist	89	1225
F. G. Gall,	Anatomist and Phrenologist.	70	1198

96 persons in all. Average brain weight 1473. (52 ounces).
Average age 63.

There are cases of persons of ordinary ability, not to mention idiots, with brains of heavy weight; there are also cases of distinguished people with average, if not lower brain weight. Thus Shelly, Descartes, Foscolo, Donizetti and Schumann had small heads, and, presumably, small brains. But such cases are not the rule. The rule would seem to be three-fourths true and one-fourth untrue. That is, the trend of leading specialists, as Ranke, Mannouvrier and Virchow, is that heavy brain weight suggests high mental capacity. The cases of heavy brains of idiots, feeble-minded, criminal and insane are usually cases of disease. Also, large brains of ordinary people are often pathological. Then, also, abnormally large and heavy persons may for this reason alone have large heads, and so large brains. But, after all has been said, such cases are the exception and not the rule.

In table 13 are given brain weights of additional distinguished men not in table 12.

Table 13.—Additional Distinguished Men.

Name	Occupation	Brain weight in grams	Cranial capacity in c.c.
Robert Bruce,	King of Scotland	1499	
Sir Thomas Browne,	A writer	1418	1595
Ernst Haeckel (86 years old)	Scientist	1575	1509
Name not permitted, (Retzius)	Highly gifted statesman	1489	
Average			1476
Average English skull		1495	

Multiplying the cranial capacities of Bruce and Browne by .94 (Welchker), their estimated brain weights are 1,499 and 1,419 grams (53 and 50 ounces).

This table simply confirms the conclusions of almost all specialists that distinguished personages show distinctly higher brain weight than the general average.

(Concluded in March issue)

Evil Mastoid Sequelae

In the great majority of infants suffering from cholera infantum and in many suffering from chonic malnutrition, there was obscure infection of the mastoids. In 45 per cent of the former and in all of the latter, operation was followed by cure. Death was not due to the operation per se but to profound pathological changes in the tissues of the whole body. Prevention of mastoid infection in infancy is therefore of the utmost importance. Prevention depends primarily upon proper diet and hygiene—human milk or adequate artificial feeding, and the use of cod liver oil for all infants even if breast fed.—*New York State Journal of Medicine.*

A Review of the More Important Advances in Obstetrics and Gynecology During the Year 1927

HARVEY B. MATTHEWS, M.D. *and* VINCENT P. MAZZOLA, M.D.
Brooklyn, N. Y.

(Concluded from page 22, January, 1927, issue)

H. W. Mayes (*J. A. M. A.*, Nov. 12, 1927) has reviewed all the cases of induced labor at the Methodist Episcopal Hospital of Brooklyn, in his article "The Use of Mercurochrome as a Vaginal Antiseptic in the Induction of Labor." During the past ten years there have been 9,580 deliveries with 191 bag inductions of labor. Ninety-three inductions were done before the use of mercurochrome with a gross morbidity of 29 per cent and eight maternal deaths, two of which were from puerpural sepsis. Since the use of mercurochrome as a vaginal antiseptic, has become a routine procedure, during labor and before all deliveries, there have been 98 bag inductions of labor with a morbidity of 9 per cent and only one maternal death. This patient had a placenta previa and died from shock and hemorrhage.

The morbidity of the primiparas was 50 per cent without mercurochrome and in the multiparas 25.3 while with mercurochrome it was 11.7 for the primiparas and 7.5 for the multiparas. The morbidity with cases of toxemia was reduced from 20.5 per cent to 7.8 per cent by the mercurochrome technique. The morbidity increased rapidly with the length of time the bag remained in the uterus, when mercurochrome was not used, but with mercurochrome the risk of infection, as shown by the lowered morbidity rate, actually decreased. Six patients in the mercurochrome series had the bag reinserted, and the average time that he bag was left in the uterus was 18 hours. Not one of these patients came within the morbidity group.

In 42 cases of placenta previa, 26 of which were in the mercurochrome group, there was not a single death from infection.

The technique consists of spraying the external genitalia and surrounding area with a 4 per cent solution of mercurochrome and the instillation, with a special "Asepto" vaginal syringe, of 3 drams of the same solution, into the vagina. This is done when the patient is first admitted to the hospital, if she is in labor, or at the onset of labor. At the time of the induction, which should be not less than one hour after the original preparation, the perineum is sprayed with a 4 per cent alcohol, acetone, aqueous solution of mercurochrome, and the vagina filled with mercurochrome. The cervix is located. If it is dilated sufficiently the bag is passed through the cervix and filled with a weak solution of mercurochrome. The cervix can usually be dilated manually until it admits the bag. When the bag is full the stem is tied and left protruding from the vagina. Another tape is tied just outside the vagina to indicate the amount of descent of the bag. If the bag comes down two or three inches it is usually out of the cervix. After the stem is tied a hand sponge is inserted, and the vagina again filled with mercurochrome.

If labor does not follow in a few hours after the introduction of the bag, a one pound weight is attached by a cord to the stem of the bag, and dropped over the foot of the bed. The weight causes sufficient traction to hasfen the dilatation of the cervix. The cord attached should be of such material that it is easily broken so as to avoid any injury to the cervix should the patient move suddenly.

Caesarean Section

G. C. Mosher in his very exhaustive study of "Caesarean Section—Indications and Limitations" (*S. G. & O.*, Nov. 1927, XLV. p. 655) has covered the subject from every angle and should be read by every physician doing obstetrics. While the reviewers do not agree with all that is said by Dr. Mosher, nevertheless it contains much very sound and sane advice on the much discussed and abused question of caesarean section. There are still far too many sections performed by the so-called obstetric surgeon to say nothing about the tremendous number performed by "general and occasional" surgeons who confess they know nothing about Obstetrics—mere operators.

Statistical data can be made to prove anything but such data as regards caesarean section, taken at random, shows conclusively, as Dr. Mosher states, that the most important considerations in the decision to perform this operation are first accurate pre-natal care and secondly the "obstetrical conscience." Obviously the surgeon who possesses neither of these prerequsites should not perform caesarean section. Would this were true! No further notes of warning or censure would have to be given and the caesarean rate through the country would immediately strike a uniform normal.

Just to prove that the personal equation determines the incidence of caesarean sections, as seemingly it does, consider these statistics—the incidence of caesarean section at the Jefferson Hospital in 1925, was 1 to 6; at Boston Lying-In 1 to 12, at Minneapolis General Hospital 1 to 631 and at the Toronto General 1 to 861. Certainly a wide variance in the incidence of caesarean section. Surely, says Mosher, the material reaching the maternity hospital in the various sections of the country can hardly show such wide discrepancy in its anatomical and pathological indications. We must recognize that the personal equation is largely responsible for such statistics. Undoubtedly such conditions will persist until the primary obstetric principles, as taught in every good medical school, are practised by the "adult physician" specialist or generalist.

The indications, says the author, for caesarian section may be thus condensed:

1. A Baudelocque of less than 17 centimeters and a true conjugate of 6 centimeters or a tumor blocking the outlet is a positive indication.

2. Seventy-five per cent of all pelvic contractions allow delivery by natural passages.

3. The classical conservative or Saenger operation done when indicate by election is comparatively safe. The mortality should not exceed 2 per cent for the mother.

4. Maternal mortality is increased by leaps and bounds through rupture of the membranes, attempt at forceps, induction, version, craniotomy or even frequent examinations per vaginam, previous to the section. After any of these have occurred craniotomy should be selected in the interest of the mother's life. If a section is done after potential infection it must be a Porro or a low extraperitoneal operation.

5. In eclampsia the indication for caesarian section is

limited to the cases of a primipara with rigid long unyielding cervix, no improvement following 6 hours of conservative treatment.

6. Placenta praevia is most generally an indication for Voorhees bag induction, th exception being severe bleeding with no dilatation in a praevia centralis.

7. Fetal mortality is to be reckoned according to whether the section be demanded by pelvic dystocia or by maternal disease. In the former a minimum death rate for the infant may be predicted. In the latter the risk to the child due to haemorrhage, tokaemia, or prematurity is necessarily vastly augmented.

8. Finally, the indication for caesarean section when we have reached utopia will be entirely dependent on prenatal care and the obstetrical conscience.

Appendicitis Complicating Pregnancy

Appendicitis is deserving of serious study by the gynecologist and obstetrician and no less by the general surgeon. It is a frequent and doubly significant disease during the child-bearing age. Not uncommonly it complicates and unfavorably influences pregnancy and at times causes the premature termination of the gestation. Furthermore the acute fulminating type of appendicitis may cause the death of the fetus or mother or both. It would seem therefore that inflammations of the appendix become of paramount importance in the presence of pregnancy and that the early recognition and proper surgical treatment is the only method of management that will reduce the morbidity and mortality of this disease.

Pregnancy Complicated by Acute Appendicitis

R. A. Wilson (*S. G. & O.*, November, 1927, XLV, p. 621) reports 10 cases of pregnancy complicated by acute appendicitis treated at the Methodist Episcopal Hospital since 1915. Nine (9) of these cases occurred on the obstetrical and surgical services of the hospital and one was a private case of the author's.

An analysis of the first 9 cases revealed the following interesting points:

1. In the six acute cases only one of the attacks was primary. In all the others a history of pathological changes was obtainable.

2. Pregnancy had an injurious effect in the 8 cases in which a diseased appendix existed. Marked exacerbation of symptoms occurred.

3. In the presence of a pregnancy, perforation and peritonitis appeared rapidly. Prompt diagnosis and operation gave the best results.

4. Of the three perforated cases, one died. If operated upon before perforation, however, recovery was rapid and without complication.

5. Only one case miscarried despite the fact that 3 of them required drainage.

6. The last 3 cases show operation performed largely as a prophylactic measure, with excellent results and no disturbance of the fetus.

The frequency of acute appendicitis apparently is no higher in pregnant than in non-pregnant women. However, there is no doubt, says Wilson, that pregnancy reacts unfavorably if the appendix has been the seat of previous trouble and aggravates the condition to marked extent. Nowadays many men are beginning to realize that not a few of the digestice symptoms, abdominal pain, and discomfort of pregnancy, at any stage, are undoubtedly due to the appendix. The real acute appendix usually occurs somewhere between the 3rd and ..th months of pregnancy, although no period of gestation may escape. It is distinctly the least frequent during the last 2 months of pregnancy.

The diagnosis is not so easy in many instances. Usually a positive diagnosis can be made if a careful history is taken; a careful physical examination is made; and accurate laboratory data is obtained. The following conditions must be differentiated: (1) gall bladder disease; (2) right-sided ectopic pregnancy; (3) right-sided pyelitis or renal colic; (4) ovarian cyst with a twisted pedicle; (5) degenerating fibroid tumor on right side of uterus; (6) intestinal obstruction and diverticulitis, and (8) mesenteric thrombosis.

The author has formulated the following conclusions:

1. No reliable statistics are available to indicate how frequently appendicitis complicates pregnancy. It is known, however, that about 2 per cent of women with acute appendicitis are pregnant.

2. About 80 per cent of the cases occur in the first 6 months, the disease being comparatively rare in the last dimester. It undoubtedly is more common in the puerperium than is generally supposed, but is frequently overlooked at this time.

3. Pregnancy reacts unfavorably on a diseased appendix. It always aggravates the existing pathology and is likely to precipitate an acute attack at any time. Primary atacks during pregnancy are quite rare.

4. The disease runs a rapid course, and perforation and peritonitis may be present in a few hours. This is especially true in the late months of pregnancy.

5. The diagnosis becomes increasingly difficult after the sixth month, this being especially true if uterine contractions are present. The leucocyte count does not furnish much aid because of the leucocytosis normally existing during pregnancy. In case of doubt, operation should be performed.

6. The material prognosis is good if an early operation is performed, but following perforation a mortality rate of 50 per cent is to be expected. In simple cases there is little danger of abortion, but if perforation is present, the uterus will empty itself in at least 50 per cent of the cases. The more advanced the pregnancy the greater is the danger to mother and child.

7. Whenever possible, the appendix should be removed during laparotomies performed for other conditions. When the organ is known to be diseased, it should be removed before pregnancy is already present, at the first appearance of symptoms.

8. It is in the last dimester that several important problems have to be dealt with, and it is in order to meet these that caesarean section, followed by appendectomy, is advocated as the procedure which will give the best results.

9. The method to employ in emptying the uterus depends on the extent to which the uterine wall is involved in the infectious process. When this is slight, the classical operation is indicated, but, if severe, a choice must be made between a low section or the Porro operation.

Management of Placenta Previa

Every obstetrician dreads placenta previa. All physicians fear it and, even when the correct diagnosis is not made, call for help solely because of hemorrhage. It calls for immediate and intelligent action. The methods of treatment, in most sections of our country, have not changed very materially during the past 10 years, except that the more traumatic vaginal methods, such as accouchment force, vaginal caesarian at full term and Durhssen's incision, etc., have been largely eliminated. However, placenta previa continues to be one of the most serious and trying problems of obstetrics. The average maternal mortality is still about 10 per cent and if central placenta previa alone is considered the mortality is near

25 per cent, while the average fetal mortality is about 60 per cent.

A. H. Bill (*Am. J. Obs. and Gyn.*, Oct. 1927) has suggested an improved treatment of placenta previa and one that should be accepted in competent hands. Naturally such treatment as recommended by Dr. Bill cannot be carried out by the physician who cannot perform caesarian section or give blood transfusion. And since this is true, the method is not applicable for the average family doctor doing obstetrics. Therefore, in the final analysis, we still do not have a universal practical method for handling placenta previa. The vaginal pack, the Vorhees bag, version, and simple rupture of the membranes remain the methods in general use.

Dr. Bill has, nevertheless, suggested a method of treatment, viz; propylactic blood transfusion and caesarian section, for placenta previa that if it can be carried by a competant obstetrician, is perhaps the best method of handling this condition today. His maternal mortality in 56 cases, 40 of which had caesarian section, was 1.78 per cent—while his fetal mortality was 32.1 per cent. Proplylactic blood transfusion, asepsis carried out to the *nth* degree, with rectal instead of vaginal examinations, the author thinks. accounts for his very good results.

The Treatment of Pelvic Inflammatory Disease

There is no phase of gynecology and obstetrics that is less understood by the profession at large than the treatment of pelvic inflammatory disease. Most operators operate upon the female pelvic organs. The general surgeon's income would be reduced 50 per cent if he refused to do gynaecic surgery. Yet gynecology is a recognized specialty and if the so-called general surgeon is going to perform gynecological operations why not have him perform operations upon the nose, throat, eye or thorax. The pathology of the female organs and adjacent structures, to say nothing of the physiology, is somewhat different from that of other parts of the body with which the general surgeon is familiar. Indeed that surgeon who does not know his pathology is not a surgeon he is an operator. No operator should be classed as a surgeon unless he knows physiology and pathology. Likewise no surgeon should do gynecological and obstetrical operations unless he is familiar with the physiology and pathology of the femal pelvic organs.

Most pelvic (tubal) inflammations are the results of a gonoccocal infection or infection following abortion, miscarriage and labor. They all begin as acute processes. The portal of entry is the vagina, urethra, Skene's glands, with direct extension through cervix, uterus, tubes, ovaries to peritoneum when the process is fulminating. Usually the pus tube or tubo-ovarian abscess is the terminal stage of the infection. Now at this "abscess stage" is where the differences of opinion arises as to proper treatment. Shall operation be done during the acute stage? No. The gynecologist has found from bitter experience that when operation is performed during the acute stage with raging fever a radical operation must be done whereas if such case is left to "cool off" and become chronic and quiescent a much more conservative operation or no operation at all will be done. It is our duty always as surgeons to conserve whatever we can when we can. Consequently since there is little or no danger in deferred operation in pelvic inflammatory disease the conservative thing to do is to wait and not operate until the disease becomes chronic or, as sometimes happens, disappears entirely, in which case no operation is necessary. This is real conservatism. Early operation is not conservative notwithstanding the wail of some surgeons, because important structures are sacrificed and others maimed to no inconsiderable extent.

C. Jeff Miller (*S. G. & O.*, XLV, July 1927) in his paper—"The Rational Treatment of Tubal Disease" gives a very concise and clear discussion of the subject of pelvic inflammatory disease. Dr. Miller is a gynecologist (one of the best) and hence recommends the conservative treatment of pelvic inflammations. Says he, to physicians who began to practise in the era when immediate operation for acute salpingitis was the rule, the recent literature advocating a return to that plan, long considered happily defunct, is most distressing. Superficially the results seem good and the arguments seem convincing, but closer investigation at once makes it apparent that the logic is unsound and the reasoning meretricious. His rule for operating upon these cases is that of Simpson's (1909) viz.:—absolute recovery from the acute attack, a consistantly normal temperature for 3 weeks, even after thorough bimanual examination, and the complete absorption of the inflammatory focus of infection.

Miller studied 600 cases operated upon by several different surgeons, including himself, and found that very nearly two-thirds of these (381 cases) had been operated upon without any attention having been given to the criteria upon which the delayed operation is based. The results in these cases, needless to say, were anything but good.

There are three cardinal points which are the basis of the champions of deferred operation. They are:

1. Salpingitis is essentially an infectious disease, with the gonococcus responsible for the greatest number of cases, and that auto sterilization by natural processes is the rule in at least 70 per cent, provided sufficient time is permitted for this outcome to occur.

2. The pathology of salpingitis is various, and spontaneous clinical recovery may ensue in any type of the disease, although naturally it is more frequent in the milder types.

3. The involvement of the general peritoneal cavity is most exceptional, and death during an acute attack is equally unusual, for which reasons the deferred operation carries practically no additional risk to the patient.

Reference is made to composite arguments for immediate operation as they are set forth in the literature. They are:

1. It is nothing more than common sense that any destructive process should be arrested at the earliest possible moment.

2. Granting that actual infection is present, its spread is of no more consequence than in operations for appendicitis, indeed less so, since the organisms are usually less virulent.

3. Early operation is even more important in salpingitis than in appendicitis, since no one ever wished to conserve an appendix, good or bad while the conservation of a woman's genital organs is a matter of vital moment to health and happiness.

4. The supposed salpingitis frequently proves to be appendicitis or ectopic pregnancy.

5. Rupture of pus tubes is a possibility.

6. Technical difficulties make the deferred operation very tedious and dangerous.

7. Postoperative complications are less than in the deferred operation, when fistulae, infectious and residual abscesses are common.

8. The mortality is lower when immediate operation is done.

9. Chronic invalidism and sterility are usually the result of expectant treatment.

Dr. Miller believes from his investigation that the only argument which has any weight in favor of early

operation is that of expediency, since it is frequently impossible to persuade these patients to submit to the necessary periods of rest. He advocates the conservative plan of treatment. However, when surgery must be done, its extent should be based not only upon the pathological condition present, but upon the age and social condition of the patient, and to a certain extent upon her own desires. In tuberculous proceses, both tubes must be removed, and the same procedure is wisest when the infection is clearly of specific origin.

Etiology of Eclampsia

M. R. Warden says (*American Journal Obs. and Gyn.*, Sept. 1927, p. 293), amniotic fluid as an etological factor in the causation of eclampsia has been neglected on the basis that there is a greater concentration of uric acid in the amniotic fluid over that in the blood, it is suggestive that in the toxemias of pregnancy, the increased uric acid of the blood may arise in part from a more highly saturated amniotic fluid. With these factors in mind the author undertook to experiment. He found in a series of ten rabbits which were injected intravenously with amniotic fluid of rabbits, three had convulsive seizures and died. The other developed no symptoms recognizable by observation. The death of two of the animals appeared to be due to pulmonary embolism resulting from epithelial cells contained in the fluid injected. The other animal received fluid presumably free from emboili. The cause of its death remained undetermined. Human amniotic fluid may contain abundance of material which, if injected into the blood stream, could produce embolism. The theory is suggested that eclampsia may be due to the sudden accidental injection of a considerable amount of amniotic fluid in the maternal blood stream.

J. Hofbauer (*Am. Jour. Obs. and Gyn.*, Sept. 1927, p. 286) reports a case of profuse concealed hemorrhage derived from a very small area of separation of the normally unplanted placenta. The author emphasizes that the significant part in its pathology is due to a lesion of the walls of the capillaries and small veins which allows plasmia and red blood cells to leave the vessels in the affected areas, thus giving rise to marked edema and hemorrhages by which the muscle bundles are spread apart. It is the capillary toxicosis which contsitutes the prominent feature of this condition and of eclampsia as well. The author believes that the mechanism operative in the production of premature separation of the normally implanted placenta could be simulated in pregnant animals by the administration of histamin. It is this substance whose effect is primarily characterized by endothelial injury, which renders the capillaries more pervious to the escape of fluid and corpusales, hemagglutination in this way promoting the occurrence of thrombi, and at times hemolysis.

Diabetes Mellitus and Pregnancy

(H. J. Stander and C. H. Peckham, *Am. Jour. Obst. and Gyn.*, Sept., 1927).

In the past in the obstetrical field, diabetes mellitus was considered a very serious complication of pregnancy, Williams in 1909 stated that its gravity had been over estimated. However it is a known fact that perhaps only 5 per cent of those afflicted with this disease become pregnant and this number the incidence of abortion, premature labor, polyhydramnios are quite high. Because of the difference in opinion the authors undertook to study the metabolism of diabetic patients during the course of repeated pregnancies. The concluded the following:

1. The diabetic woman may undergo a change for the better during the second half of pregnancy.
2. This improvement may be due to the action of fetal pancreatic hormone, to an excessive utilization of maternal carbohydrate by the fetus, as well as to some as yet unknown change in the maternal carbohydrate metabolism which takes place in the latter stages of gravidity.
3. Under careful hospital supervision as to diet, with frequent urine and blood analyses, and with insulin treatment if necessary, the diabetic patient may often go to term and be successfully delivered of a living child, without aggravation of the diabetic condition or indeed with a temporary disappearance of all symptoms during a part of the period of lactation. Of course, it would be unwise to anticipate such an outcome in extremely advanced cases of diabetes.
4. In patients with diabetes mellitus the first half of pregnancy appears to be the precarious period for the fetus, and without any benefit to the mother.
5. The excessive size of children born of diabetic mothers is probably due to the increased supply of maternal blood sugar, as the fetus undoubtedly makes a heavy demand on the maternal carbohydrates not only for its sugar requirements but also in order to build its fat and to supply its own energy.

Liver Extract in the Toxemias of Pregnancy

(Harold A. Miller, and D. B. Martinez, *Am. Jour. Obs. and Gyn.*, Aug., 1927, p. 165.)

Liver extract produces no contraction in the uteri of guinea pigs. The drug has been claimed to have a depressor action, and in the series reported by the author it is believed that it has a detoxicating property in toxemias of pregnancy. The drug was used in fifty cases and the following are the productions derived:

1. Cases of known or suspected preconceptional nephritis were only symptomatically improved after using liver extract.
2. Convulsions did not occur in any treated preeclamptic cases.
3. Improvement always occurred except in the preconceptional nephritic cases.
4. No mortality in this consecutive series.
5. Eclamptics must be under constant observation and the drug given in doses sufficient to neutralize the toxin present in the individual.

The Value of the Blood Sedimentation Test in Gynecology

Werner L. Benischek, M.D., and Marion D. Douglas, M.D. (*Am. Jour. Obs. and Gyn.*, Aug. 1927, p. 220) in an attempt to determine whether the blood sedimentation test offers additional information either of diagnostic or therapeutic value include the following from 250 consecutive cases:

1. The velocity of the sedimentation of the erythrocytes gives information of value in establishing the diagnosis when considered in relation to the entire clinical manifestation.
2. The velocity of sedimentation does not indicate the patient's resistance to infection and is not of demonstrated prognostic value.
3. When there is neither fever nor leucocytosis, the velocity of sedimentation may aid materially in the diagnosis of suppuration in the pelvis.
4. In spite of exceptions the velocity of sedimentation is generally directly proportional to the extent of severity of the inflammation or both.

(Concluded on page 54)

A Retrospect of Surgery for the Year 1927

AIMÉ PAUL HEINECK, M.D.

SURGEON TO THE LAKESIDE, WASHINGTON PARK, FRANCES WILLARD AND ST. PAUL HOSPITALS,

Chicago, Ill.

(Concluded from page 3, January number)

These same authors also report upon the operation of phrenicotomy in connection with advanced lung tuberculosis. They do not think that the results of this operation are so good as are generally reported in the literature. Even when complete paralysis of the diaphragm is brought about, there is usually a vicarious action on the part of other respiratory forces, which decreases the effect to such an extent that it is doubtful whether sufficient compression of the base of the lungs can be brought about for the proliferation of connective tissue which is necessary for cure. Although the immediate results of phrenicotomy are encouraging, the late results are less satisfactory. But in such a serious condition as pulmonary tuberculosis even moderately good results are worth striving for especially when they can be obtained by such a slight operation.

Heinius and Gohrbandt[28] also treated 12 cases of pulmonary tuberculosis by extrapleural thoracoplasty with or without resection of the phrenic nerve. Three patients died within a few weeks of the operation. The 9 others seem cured. Two of the latter were cavitary cases.

In the treatment of a case of bronchial fistula, Halstead and Thurston[29] excised the scar tissue lining the cavity in the chest wall and covering the exposed part of the lung and, by means of pursestring sutures of catgut, the openings into the bronchi were closed and inverted. A flap of fat and fascia, taken from the patient's thigh, was used to fill in the cavity in the lung. A pedunculated flap of skin and muscle was placed over this fascial flap and sutured to the surrounding skin edges. The fistula remained closed.

In cases of bilateral pulmonary tuberculosis, Borchardt and associates[30] created a pneumothorax on the most affected side and did a phrenicectomy on the other. These authors think that pneumothorax is indicated when there is acavity and phrenicectomy when the lung in sclerous. In 8 cases, four patients were much improved and four died. Two of these deaths were due to the patients' desperate condition and one death was due to nephritis.

Esophagus

Carrington[31], in the experimental suturing of the esophagus in dogs after longitudinal and transverse incisions, found that end-to-end anastomosis yielded an uncertain percentage of success; but that when successful, the anatomic and physiologic effects were good. The anastomosis should be done with the viscus fully expanded and pneumothorax should be prevented as the pleura is most susceptible to infection in the presence of pneumothorax. Silk is preferable to catgut as a suture material.

Lahey[32] claims that removal of pulsion diverticulum of the esophagus done in two stages under local anesthesia is remarkably safe. He has so operated 8 cases successfully. In this two-stage operation, the sac is first implanted unopened in the wound and removed about ten days later.

Heart:

Zuccarelli[33] successfully removed a revolver bullet from the posterior part of the pericardial sac and the patient made a good recovery. The operation was done 44 hours after injury.

The surgical treatment of angina pectoris aims at interruption of the centripetal path of the pain before it reaches the central system. By animal experiments, Spiegel[34] has shown that the path of pain in angina pectoris is through the stellate ganglion and rami communicantes to the posterior roots between the eighth cervical and fourth dorsal vertebrae. If these animal findings are applicable to man the centripetal conduction of pain in angina pectoris may be interrupted either at the ganglia stellata or at the rami communicantes or at the posterior roots named. For physiological reasons, Spiegel thinks that division of the posterior roots seems the only applicable operation.

Lemon[35] found that experimental severing of the phrenic nerve in dogs, although it produced paralysis and atrophy of the diaphragm on the side of the section, did not greatly impair the respiratory function. There is an apparent compensatory action and the hemidiaphragmatic atrophy fails to affect respiration to a great degree.

Richards[36] gives the results in 100 recent consecutive cases of thyrotoxicosis operatively treated. Seventy-six were primarily hyperplastic goiters and 24 secondarily toxic (adenomatous) goiters. Preliminary preparation with Lugol's solution was given in all cases. After operation, 94 of the 100 patients showed an immediate fall in the basal metabolism rate below 15+. Ninety-nine out of the 100 patients operated upon were relieved of hyperthyroidism. Richter considers that every patient with toxic goiter should be operated upon.

This report is typical of several others of the same kind during the year.

Malignant Disease:

White[37] reports upon the late results of operations for cancer of the breast, based upon a review of the cases in the Roosevelt Hospital from 1912-1921 inclusive, treated by radical operation. White finds that removal of the pectoralis minor is not essential. It is fair to believe that of all operable cases 30 to 35 per cent are free from recurrence at the end of 5 years and, if the cases only are taken that are free from axillary metastases, 60 to 65 per cent are free from recurrence at the end of 5 years. Fifty per cent of those free from axillary metastases may expect to be free from recurrence for 10 years. Preoperative irradiation is no good and the value of postoperative irradiation is doubtful.

Edwards[38] thinks that two types of malignant intrathoracic growths are particularly amenable to operation, i.e. localized endothelioma and the so-called alveolar carcinoma. Edwards reports 7 personal cases, six of which have apparently been cured.

Coughlin[39] reports on 50 cases of operative plastic reconstruction of the axilla in the operation for breast cancer. Of 40 patients operated more than two years, 24 are living and 16 dead. Coughlin believes that his method of treating the skin flaps helps to prevent metastasis.

Progress in Surgery of the Abdomen

Buchbinder[40] gives a preliminary report on the pre-

vention of peritoneal adhesions and encapsulation by the injection of hypertonic dextrose solution which produces an exsudate capable of preventing fibrin formation.

Freeman[41], from animal experiments, suggests that the reason why abdominal incisions rupture is because the peritoneum has been inadequately closed and omentum or bowel forces itself between the loose stitches and acts as a wedge preventing union of the tissues, that is from inward not outward.

Schoenbauer[42] reports the results of the treatment of diffuse perforation peritonitis, in the von Eiselberg Clinic, with irrigations of pepsin acidified with hydrochloric acid. A 3 per cent dilution of the acid was found most effectively bactericidal when pepsin solution, equal in strength to that of the gastric juice, was added to it. In 39 cases of peritonitis following perforation of appendix treated in this way, there were no deaths. Twenty-nine of these cases were dealt with within 24 hours following the perforation.

Schleuszner[43] treats perforation peritonitis with ether. This procedure reduced the mortality by 50 per cent. Following operation the ether, never more than 100 cu. cm. is placed in the abdomen and the wound closed with drainage. The good effects are attributed to tonic and bactericidal effects as well as to stimulation of peristalsis.

In an experimental study of dogs, Hughson[44] found that section of the vagus nerves, either at the cardia or on the anterior and posterior walls of the stomach, caused a decrease in the normal emptying time of the stomach. Following section of the vagus trunks, or the gastric branches of the vagus, it was impossible to produce a reflex pylorospasm by peritoneal irritation. The efferent role of the vagus in the visceral reflex, involving contraction of the pylorus following peritoneal irritation, is therefore believed to have been established.

Fredet[45] reports a new operation for hypertrophic stenosis of the pylorus in infants by extra-mucous pylorotomy, i.e. section of the muscular sphincter or longitudinal extra-mucous pylorotomy. Twenty-five infants in various degrees of cachexia were operated and only two died.

Brzosowskij[46] secures a bloodless field during splenectomy by a previous ligation of the splenic artery and separate ligation of the vein some time after that of the artery. This method has also recently been recommended by Lotsch before the German Surgical Congress.

Krestovsky[47] points out that the operative treatment of cirrhotic ascites ought to consist of a direct anastomosis between the portal vein and the inferior vena cava. But it is not necessary as has usually been done to totally deprive the liver of the portal circulation in order to avoid intoxication. Ligature of the portal vein should therefore be avoided and the vessel clamped only. This operation, which is new, was successfully carried out by the author in a very severe case of cirrhotic ascites.

Fallon[48] claims that 90 per cent of his 1,103 operations on the gall-bladder were for calculi. He has become very wary in the removal of a non-calculous gall-bladder; but it is often very difficult for the internist and for the operator to tell whether a gall-bladder in the absence of calculi is diseased or not.

In 48 cases of cecal tumor, Erdmann and Clark[49] report that removal of the growth was effected by the Friedrich operation. This technic consists of the removal of 10 to 12 inches of ileum, the entire cecum, the ascending colon and from one-third to one-half of the transverse colon, completed by an anastomosis of the ileum to transverse colon, end-to-end being the choice.

In extirpations of large parts of the colon, it is sometimes difficult to unite the separate extremities of bowel. The defect, according to Stone[50], can be made good by the substitution of a segment of small bowel interposed between the divided ends of the colon. Nineteen experiments on dogs have shown this method to be feasible.

Sistrunk[51] describes a new personal method of dealing with extensive lacerations of the anal sphincter. This begins with a curved transverse incision just above the anus or along the vagino-cutaneous margin. The levator ani muscle is isolated and sutured over the anterior rectal wall. The ends of the external sphincter, which are often widely separated, are sutured to the levator ani, the ends being brought together and sutured with as little tension as possible. The ends of the muscle are usually brought close enough to close the anus so that it fits snugly around an index finger introduced into the rectum. The wound is left open and packed with gauze. The scar tissue, which forms in the healing process, unites the edges of the sphincter fairly satisfactorily, and, if the nerves have not been injured, the patient exerts normal control over the feces.

Goebel[52] treated 300 cases of obstinate constipation surgically. Of 270 cases attributed to general abdominal ptosis, 140 were operated by exclusion of pylorus, posterior gastroenterostomy and as needed a gastropexy or gastroplicature with 80 to 100 per cent success.

Sigmoid megacolon or transverse megacolon was treated successfully by resection. In cases where constipation was due to hypertrophy of Houston's valve, section of the valve, according to Gant's technic, was done.

Ferey[53] recommends resection of the presacral nerve in cases of carcinoma of the pelvic organs where pain is intolerable and cannot be controlled by opiates. The operation is technically simple.

Gastro-Duodenal Ulcer

Southerland[54], from a study of the records of the Mayo Clinic over five years, finds that duodenal ulcer is the most common lesion of the digestive tract seen with the x-ray. The pathognomonic sign of duodenal ulcer is the incisura which deforms the bulbar contour. This may be unilateral or bilateral and vary from a mere slit to an indentation that nearly bisects the cap. The other important diagnostic sign is the niche.

Flint[55] has treated nearly 200 cases of chronic duodenal ulcer by gastrodoudenostomy. In the technic, he advises that the angle between the second and third parts of the duodenum should be freed rather than the upper angle where the first and second parts meet, as at this point there are many vessels. There were only 2 deaths in his series and both these patients were greatly emaciated.

Horsley[56] for past three years has used a modified Billroth I operation for gastric ulcer. The modifications, which do away with the objections to the original operation, consist of uniting the stomach to the duodenum in such a way that the lesser curvature of the stomach will be in alignment with the upper border of the duodenum, and opening the duodenum by an incision (1 to 1½ inches) in its anterior wall. Thus the physiologic alignment of the lesser curvature is preserved and the danger of obstruction avoided.

Winkelbauer[57] and Floercken and Steden[58] discuss postoperative peptic ulcers.

Floercken and Steden on the basis of their own experience and that of 22 other surgeons conclude that, when gastroenterostomy is performed for ulcer of the duodenum in men of middle age, the occurrence of peptic ulcer of the jejunum within the first wo years after the operation is to be expected in about 3.5 per cent of the cases. In the formation of a peptic ulcer of the jejunum,

constitutional factors are of importance. When anterior gastroenterostomy by the Braun method of anastomosis is done, the incidence of peptic ulcer increases to 16.8 per cent. An attempt should be made to avoid the use of clamps especially in the jejunum. When no clamps are used, the incidence of peptic ulcer falls to 0.3 per cent. Von Eiselberg's pyloric exclusion should be avoided. Primary extensive resection in duodenal and gastric ulcer does not always protect against peptic ulcer but it is usually associated with much less danger of this complication than gastroenterostomy. The treatment of peptic ulcer of the jejunum must be surgical and radical resection is the method of choice or a jejunostomy when resection is impossible.

Winkelbauer points out that the musculature of the intestinal wall is involved in the development of peptic ulcer. Kreidl's findings indicated that if the musculature were removed no peptic ulcer resulted even under conditions which otherwise would produce it. Other experiments have shown that the formation of peptic ulcer may be obviated by preventing muscular spasms. To avoid postoperative ulcer, efforts must be directed towards the inhibition of spasms at the threatened sites.

Flint considers that the more physiologic disposition of the parts after a gastroduodenostomy probably accounts for the complete freedom from trouble after his 200 cases of this operation.

Regarding the question of ulcer and cancer, McCarthy[59] of the Mayo Clinic says:

(a) Single and multiple chronic ulcers of the stomach occur;

(b) That of the multiple chronic ulcers one may be carcinomatous and the others simple;

(c) The smallest gastric carcinomata have been seen in the borders of simple chronic ulcers and not in the base. Whenever carcinoma has ben found in the base of an ulcer it has alway's been found also in the borders. The relative frequency of resected carcinoma to resected or excised chronic ulcer has changed as a result of the fact that surgeons and clinicians of experience are convinced of the impossibility of differentiating early carcinoma from simple ulcer by clinical means including roentgenoscopy.

Neuberg[60] reports that the use of the Hueltl sewing clamp in gastric resection for ulcer has reduced the mortality of this operation in the last 100 operations to 3.3 per cent.

Nazarov[61] of Saratov, Russia, recommends cholecystogastrostomy for stomach ulcer, which he thinks a simple operation not involving any of the serious complications resulting from gastroenterostomy. Besides, it is more physiologic.

Progress in Surgery of the Genito-Urinary Organs

Kidney and Ureter:

Patel and associates[62] recommend a lateral paraperitoneal incision in renal surgery on account of the following advantages: It permits the patient to lie in the usual dorsal position and thus renders anesthetization easier; it permits of ligation of the vascular supply of the kidney before removal and allows careful observation of the whole of the kidney bed. This incision is especially useful in the treatment of hydronephrosis, tumors of the kidney, tuberculosis and horse-shoe kidney.

In a series of 45 cases of proved renal tuberculosis, Morse and Braasch[63] found that guinea pig inoculations gave negative results. They think that the diagnosis of renal tuberculosis should not be decided from guinea pig inoculations alone, but that other laboratory or cystoscopic findings are necessary to support it.

Klenka[64] treated 3 cases of severe traumatic contusions of the kidney with massive repeated hematuria by nephrotomy, suture, and nephrectomy respectively and obtained recovery in each case.

Bacchi[65] did a double pyelotomy in a boy of 16 years with bilateral renal lithiasis. The two pelves were opened and calculi removed at 12 days interval.

With regard to the x-ray diagnosis of renal lesions, there has been hesitation to make simultaneous bilateral pyelograms owing to the fear of injury to the kidney. Mattes[66] shows that there need be no such fear by using a 40 per cent sodium iodide solution by what he calls the "flat sac method." The high concentration of the solution permits dilution by the urine without affecting its ability to cast a shadow.

The retro-peritoneal route is usually employed in the removal of deep-lying ureteral calculi, i.e. those which are juxtavesical and intramural. With obese patients or in cases in which there are periureteral changes it is often difficult to expose the ureter, the peritoneum may be injured and the operative risk is greatly increased. Besides, incision of the ureter is not always without unfavorable sequelae and periureteral adhesions may give rise to subsequent trouble. Lemberger[67] in such cases recommends the transvesical route. This consists in a high section with slitting of the roof of the ureterovesical ostium for a distance of about 4 mm. and dilatation of the ostium so that it will permit the introduction of a No. 18 (Charrière) sound and allow extraction of the calculus.

Prostatectomy

Urinary incontinence is not an unusual complication of perineal prostatectomy and any preoperative damage to the internal sphincter makes it essential that the external sphincter be preserved. Morrissey[68] describes a personal technic designed to preserve the external sphincter. With the patient in an exaggerated lithotomy position, a deep incision is made and the lateral fossae are freed by blunt dissection. The central tendon is incised sufficiently to allow retraction of the bulb and the transverse perineal muscle retracted posteriorly. The necessity of cutting into the membraneous urethra is obviated by the use of a special prostatic curved retractor. The recto-urethalis is dissected free from the prostate and the prostatic capsule is incised with a parallel incision well in the center of each lobe and at a safe distance from the prostatic incision, which enables the lobes to be freed from the prostatic urethra. The prostatic capsule is packed with gauze, the levator ani muscles brought together and the wound closed. Perfect urinary control may be expected according to Morrissey, if this technic is followed.

For this same condition of urinary incontinence following prostatectomy, Player and Callander[69] report a method by which a transplant of the gracilis muscle is employed to prevent the defect. The operation consists of three stages: (a) a perineal exposure through the midline of the corpus cavernosum urethrae by blunt dissection; (b) a thigh incision to expose the gracilis muscle preserving the proximal blood and nerve supply; (c) a combined thigh and perineal manoeuver, in which the corpus cavernosum with its contained cavernous urethrea is encircled, as near the urogenital diaphragm as possible, with the distal portion of the transplanted gracilis muscle. A patient operated in this way who was totally incontinent previously has perfect urinary control estimated at from 65 to 75 per cent of normal.

Davis[70] reports 107 consecutive perineal prostatectomies with only one death. He attributes the decreased mortality in both perineal and suprapubic prostatectomy

to: (a) the general surgical recognition of the value of preoperative drainage; (b) the recognition by the public of the danger of delaying surgical treatment; (c) the more general use of sacral anesthesia; (d) more general attention to hemostasis. These improvements have resulted in prostatectomy being as safe (even in poor surgical risks) as other major operations.

Davis's cases were all operated under sacral anesthesia and the average age of the patients was 70 years.

Goldstein[71] recommends and practises a bilateral vasectomy in prostatectomy to reduce the complication of epididymitis.

Roeder[72] describes a method of modifying Fuller's suprapubic prostatectomy by which there is a direct union of the lower prostatic urethra with the bladder mucosa resulting in a more patent urethra. After removal of the prostate from its bed the lower third of the membraneous urethra is dissected from the prostatic bed and sutured to the bladder mucosa.

Female Genital Organs:

Cullen[73] improves the technic of supravaginal hysterectomy when there is a foul discharge from the cervical canal by carrying a stitch through the cervix from front backwards on one side of the canal. He then rethreads the loose end of the suture and carries it through the other side of the cervix. The two ends of the suture are then tied together on the posterior surface of the cervix which effectively closes the uterine canal and prevents any leakage of infective material from the uterus when the cervix is cut across.

Since the introduction of radium and x-ray therapy of uterine cancer, the publishing of statistics of the results of operative treatment is much rarer than formerly. Wills[74] reports the results in Franz' Clinic in Berlin, mostly with patients under 65 years old, operated for cervical carcinoma. Of 296 women on whom a Wertheim operation was done the primary mortality averaged about 14 per cent and 133 patients were alive after five years. If patients more than 60 years old are excluded, 76 per cent of the patients survived more than five years. Schauta's vaginal operation was performed only 12 times during the period covered by this report and Wills thinks it has but a very limited place in the treatment of cervical cancer.

Wassiliew[75] formed an artificial vagina from a Meckel's diverticulum which he brought down into the space formed for the vagina with very satisfactory results. Judin[76] performed the Baldwin operation for artificial vagina six times with no mortality and in all cases the vagina was fully satisfactory.

Young[77] describes a new instrument which, in the operation for vesicovaginal fistula, when inserted through the fistula, enables the operator to draw the base of the bladder up toward him so that he may accurately excise the fistulous tract.

Villard and Labry[78], in adnexial infections when the tubes must be removed, but in which the ovary ought be preserved to prevent the onset of artificial menopause, recommend a retrograde subserous removal of the tubes. This permits complete peritonization of the stump, leaves the ovary with an adequate vascular supply and precludes the necessity for removing the ovary.

The necessity for a timely elective caesarean section may be estimated from a report by Montgomery[79] who states that in a series of 25 urgent operations of this kind at the Jefferson Hospital, the maternal mortality was 16 per cent whereas in the elective operation it is only from 2 to 3 per cent.

Progress in Surgery of Bones, Joints and Muscles

Pott's Disease

In 5 cases, followed for several years in which Duval[80] did Albee's operation for Pott's disease, one patient died probably from renal tuberculosis. The others were all well and able to do hard work at periods from 2 to 6 years after the operation. Duval thinks that it invites failure to perform the Albee operation when there are multiple foci of tuberculosis, when the gibbosity is very great, or when cold abscesses are progressing rapidly. The operation is simply immobilization but this immobilization is better than can be accomplished in any other way. The real indication for the Albee method is offered only in very early cases and the earlier the operation is done the better are the prospects of success. But early operation is only justifiable when it is simple and free from danger, and Albee's operation is preferable to others on this account. It is essential to place bone between the spinous processes, and Duval takes several pieces of bone cut from the tibia and places them over or beside the focus in the spine and sutures the aponeurosis over them.

Guillot and Dehelly [81] have treated 34 cases of Pott's disease by osteosynthesis (Hibb's operation). At first the unmodified Hill method was employed but now an osteoperiosteal graft is added in all cases. A specimen removed five months after the operation from a patient who died of tuberculous meningitis showed a solid block of bone. The late results have been excellent in most of the cases and the authors believe that for young children this operation is better than Albee's. In discussion, Tuffier stated that he has had much better results from Albee's operation in adolescents and adults than from posterior vertebral osteosynthesis. The operation has been so good in fact that it suggests there is some other action than that of immobilization.

Wreden [82] describes a new method of osteoplastic support of the spine in Pott's disease, in which the trunk weight is transferred from the diseased vertebrae to the pelvis by means of tibial grafts.

Mezzari[83] did a subperiosteal resection of the spinous processes in 13 cases of consolidated gibbus and concludes that the operation is a harmless and valuable procedure. All of the operated patients were adults with completed skeletal development. This operation is not indicated for young children. Even in cases of serious cyphosis the results were highly encouraging because a compensatory lordosis was established above and below the gibbus and the line of gravity was moved inward.

In operations for the relief of muscular paralysis, Lange [84] invites attention to the excellent effects obtained from the newer method of tendon transplantation in which the use of parchment tendon sheaths has been associated with Lange's Silk Tendon. In 90 per cent of the cases, the result is successful and Lange says that the operation is a great addition to orthopedic surgery. Surgeons will welcome the relief from worrying after they have decided upon an operation in which muscle tension is to be reestablished. The parchment paper band prevents adhesions to the tendon; a connective tissue sac forms about it which, filled with paper mash, fluid and a large quantity of cells, forms a sort of bursa.

Ober [85] describes an operation for relief of paralysis of the gluteus maximus muscle, which is indicated in paralytic dislocation of the hip. Through a long incision parallel with the vertebrae the lateral half of the erector spinae aponeurosis is separated from the inner half and from the ilium and sacrum. A long strip of fascia lata is then dissected free through a lateral thigh

incision, the upper end being left attached to the tendon fasciae latae. This strip is threaded through a hole drilled through the femur at the level of the attachment of the gluteus maximus tendon. The long end of the fascia is then passed up over the gluteal fascia and sewed to the erector spinae aponeurosis.

Dickson [86] also in instability of the hip joint, due to paralysis of the gluteus maximus and medius resulting from anterior poliomyelitis, transplants the tensor fasciae femoris to the posterior spine of the ilium. He has had success with this operation for 5 years.

In a similar way, Mayer [87] describes a method of substituting the trapezius for paralyzed arm abductors. Fascia lata is used to lengthen the muscle instead of the silk strands employed by Lange. The fascia is sutured to the cut edge of the muscle, tubulized and brought down by a cut in the acromion process and a tunnel made in the humerus.

Fowler [88], in a case in which the fifth metacarpal was completely excised, fitted a tibial graft into the denuded carpus and fixed it by a muscle suture. Active and passive movements were begun early. The distal end of the graft became eburnated and formed a head which fitted into the base of the proximal phalanx. The end result was full extension, three-quarters normal flexion and full abduction. This was a successful anatomical and functional reproduction of a metacarpal by bone graft.

Bunnel [89] states that experience shows that nerve sutures in the hand are more successful than nerve sutures elsewhere in the body. This opinion is based on his experience of 105 cases of suture of nerves of the hand and fingers. If the ends of the nerves are approximated accurately very good regeneration always follows; and even when the ends cannot be brought together, grafts can be successfully employed.

McBride [90] finds that reduction of simple dislocation of the semi-lunar can usually be accomplished by manipulation within the first three or four days. If removal of bone is done within two or three weeks, good function will result but always with some weakness. Open reduction under the same circumstances gives as good functional results but it should not be attempted after several weeks.

Willems [91], in reporting upon the ends results of immediate mobilization of 20 cases of joint injuries, especially of the knee, found function maintained in all instances. In non-infected cases disability averaged only 5 per cent; in infected cases, 12 per cent.

Robertson[92] produced osteomyelitis in animals by inoculation. Trauma is not an essential factor but the site of the bone lesion is very likely to be the site of a previous injury. Organisms introduced into the blood stream can produce lesions in the long bones especially in the metaphyses and independent of trauma.

On the basis of laboratory findings, certain investigators advanced the theory that spontaneous gangrene of the extremities was due to hypersecretion of the adrenals and the removal of one adrenal was recommended. Herzberg [93] criticizes the results obtained in more than 100 cases in which the operation was done by Russian surgeons. In all there were 19 deaths, 15 of which were directly attributable to the operation. In 48 cases, pain ceased after the operation. In 47 cases, amputation was necessary despite the operation. In 8 cases of his own, Herzberg removed two-thirds of the left adrenal. In one case, the operation was followed by death. In six cases, it had no effect and in one there was improvement. The end results were therefore poor. Only 3 of the total number of patients operated were well two years after the operation. Herzberg therefore concludes that the hope of affecting a cure by epinophrectomy in spontaneous gangrene has not been realized.

Stulz and Stricker[94] did a suprarenalectomy in 8 cases of endarteritis obliterans juvenilis and in Buerger's disease. The operations were in adults, gave good results, and the authors consider suprarenalectomy a benign procedure.

BIBLIOGRAPHY

1. Short & Fraser: Brit. M. J., 1927, ccxv, 1001.
2. Chabanier and Associates: Presse méd., 1927, xxxv, 210.
3. Boshamer: Klin. Wchnschr., 1927, vi, No. 16.
4. Jasienski: Polska Gaz. Lek., 1927, vi, 67.
5. Holman: Ann. Surg., 1927, Lxxxv, 173.
6. Henderson: Arch. Surg., 1927, xv, 231
7. Snell: Arch Surg., 1927, xv, 237.
8. Meleney: J. A. M. A., 1927, Lxxxviii, 1392.
9. Hedblom: Ann. Surg., 1927, Lxxxv, 194.
10. Iglauer: Surg., Gynec. & Obst., 1927, xLv, 82.
11. Jarcho: Surg., Gynec. & Obst., 1927, xLv, 120.
12. Pritchard and Associates: Radiology, 1927, viii, 104.
13. Archibald & Brown: J. A. M. A., 1927, Lxxxviii, 1310.
14. Graham: Surg., Gynec. & Obst., 1927, xLiv, 153.
15. Kosyrew: Arch. f. klin. Chir., 1926, cxLi, 691.
16. Bunnell: Surg., Gynec. & Obst., 1927, xLv, 7.
17. De Lamothe & Dutheillet: Presse méd., 1927, No. 20,307.
18. Hunt: Ann. Otol., Rhinol. & Laryngol., 1927, 36, 187.
19. Sachs: Southern Med. J., 1927, xx, 171
20. Laruelle: Le Cancer, 1927, iv, No. 2.
21. Clute: Ann. Surg., 1927, Lxxxvi, 666.
22. Coleman: Virginia M. Monthly, 1927, Liii, 761.
23. Ballance & College: Proc. Roy. Soc. Med., London, 1927, xx, 217.
24. Schlueter & Weidlein: Arch. Surg., 1927, xiv, 457.
25. Smith: Arch. Surg., 1927, xiv, 231.
26. Hedblom: Arch. Surg., 1927, xiv, 389.
27. Cavina, Prateai & Barcella: Arch. ital. de chir., 1926, xvi, 707.
28. Heinius & Gohrbandt: Mediz. Klin., 1927, xxiii, No. 27.
29. Halstead & Thurston: J. A. M. A., 1927, Lxxxviii, 669.
30. Borchardt & Associates: Mediz. Klin., 1927, xxvii, 123.
31. Carrington: Ann. Surg., 1927, Lxxxvi, 505.
32. Lahey: Boston M. & S. J., 1927, cxcvi, 343.
33. Zucarelli: Policlin, Rome, 1927, xxxiv, 190.
34. Spiegel: Wien. klin. Wchnschr., 1927, xL, 853.
35. Lemon: Arch. Surg., 1927, xiv, 345.
36. Richter: J. A. M. A., 1927, Lxxxviii, 888.
37. White: Surg., Gynec. & Obst., 1927, xLiv, 358.
38. Edwards: Brit. J. Surg., 1927, xiv, 606.
39. Coughlin: Surg., Gynec. & Obst., 1927, xLv, 523.
40. Buchbinder: Surg., Gynec. & Obst., 1927, xLv, 760.
41. Freeman: Arch. Surg., 1927, xiv, 600.
42. Schoenbauer: Zentralbl. f. Chir., 1926, Liii, 2834.
43. Schleusznер: Muench. med. Wchnschr., 1927, Lxxiv, 1091.
44. Hughson: J. A. M. A., 1927, Lxxxviii, 1072.
45. Fredet: J. de Chir., 1927, xxix, 385.
46. Brzosowskij: Novyj. Chirurg. Arch., 1926, ix, 335.
47. Krestovsky: Presse méd., 1927, xxxiv, 1396.
48. Fallon: Boston M. & S. J., 1927, cxcvii, 171.
49. Erdmann, Clark: Ann. Surg., 1927, Lxxv, 722.
50. Stone: Ann. Surg., 1927, Lxxxvi, 401.
51. Sistrunk: Ann. Surg., 1927, Lxxxv, 185.
52. Goebel: Fort. d. Medizin, 1926, xLiv, 1226.
53. Ferey: Presse méd., 1927, No. 15, p. 227.
54. Southerland: Radiology, 1927, viii, 111.
55. Flint: Lancet, 1927, ccxii, 12.
56. Horsley: Surg., Gynec. & Obst., 1927, xLiv, 215.
57. Winklebauer: Arch. f. klin. Chir., 1926, cxLiii, 649
58. Floercken and Steden: Arch. f. klin. Chir., 1926, cxLiii, 173.
59. MacCarthy: A. J. M. Sc., 1927, cLxxiii, 466.
60. Neuberg: Surg., Gynec. & Obst., 1927, xLv, 204.
61. Nazarov: Surg., Gynec. & Obst., 1927, xLv, 474.
62. Patel and Associates: Presse méd., 1927, No. 9.
63. Morse and Braasch: J. Urol., 1927, xvii, 287.
64. Klenka: Bratisl. Lekark. List., 1927, vi, 315.
65. Bacchi: Policlin. Rome, 1926, xxxiii, sez. prat., 1531.
66. Mattes: J. A. M. A., 1927, Lxxxviii, 17.
67. Lemberger: Zeitschr. f. urol. Chir., 1926, xix, 259.
68. Morrissey: Surg., Gynec. & Obst., 1927, xLiv, 671.
69. Player and Callander: J. A. M. A., 1927, Lxxxviii, 989.
70. Davis: J. A. M. A., Lxxxviii, 784.
71. Goldstein: J. Urol., 1927, xvii, 25.
72. Roeder: Ann. Surg., 1927, Lxxxvi, 626.
73. Cullen: Surg., Gynec. & Obst., 1927, xLv, 80.
74. Wills: Zentralbl. f. Gynaek., 1927, Li, 18.
75. Wassiliew: Zentralbl. f. Gynaek., 1927, Li, 806.
76. Judin: Surg., Gynec. & Obst., 1927, xLiv, 530.
77. Young: Surg., Gynec. & Obst., 1927, xLv, 228.
78. Villard & Labry: Gynéc. et obstét., Paris, 1927.
79. Montgomery: Am. J. Obstet. & Gynec., 1927, xiii, 610.
80. Duval: Bull. Soc. nat. de Chir., Paris, 1926, Lii, 1148.
81. Guillot and Dehelly: Bull. Soc. nat. de Chir., Paris, 1926, Lii, 1144.
82. Wreden: Ann. Surg., 1927, Lxxxv, 35.
83. Mezzari: Chir. organi di movemento, 1926, xi, 193.
84. Lange: Surg., Gynec. & Obst., 1927, xLiv, 455.
85. Ober: J. A. M. A., 1927, Lxxxviii, 1063.
86. Dickson: J. Bone & Joint Surg., 1927, ix, 1.
87. Mayer: J. Bone Joint Surg., 1927, ix, 412.
88. Fowler: Brit. J. Surg., 1927, xiv, 675.
89. Bunnell: Surg., Gynec. & Obst., 1927, Feb.
90. McBride: Arch. Surg., 1927, xiv, 554.
91. Willems: Practitioner, 1927, cxviii, 48.
92. Robertson: J. Bone & Joint Surg., 1927, ix, 8.
93. Herzberg: Arch. f. klin. Chir., 1926, cxLiii, 125.
94. Stulz and Stricker: Rev. de Chir., Paris, 1927, Lxv, No. 3.

Abnormal Prevalence Noted for Meningitis in 1927

An abnormal prevalence of spinal meningitis for the year 1927, as compared with the preceeding two years, has been noted by the United States Public Health Service.

Progress in Venereal Disease Control for 1927

WALTER M. BRUNET, M.D.
AMERICAN SOCIAL HYGIENE ASSOCIATION
New York, N. Y.

(Concluded from January issue)

The division also gives attention to the preparation of timely and useful literature. Articles are contributed each year to many leading public health periodicals, both in the United States and abroad, special emphasis being laid on such factors as the need for follow-up of venereal disease cases both in clinic and private practice, the need for prenatal treatment, and the need for better reporting, A monthly news letter and reprint service keep state venereal disease officers and medical societies informed of current events in the progress of venereal disease control. This service deals with such subjects as the industrial aspects of venereal disease, the dangers of quackery, clinic routine, social service follow-up, and other items of interest.

Some recent reprints of importance are: "A Survey of Venereal Disease Prevalence in Detroit," by Brunet and Edwards; "Minimum Standards for the Prevention and Treatment of Venereal Diseases in Correctional Institutions," by Barringer, Brunet and Chargin; "The Physician and the Venereal Disease Problem," by Snow and Brunet; "The Nurse as a Factor in Venereal Disease Control," by Brunet and Parker; "The Kahn Precipitation Test for Syphilis," by Hopkins and Brunet; "Social Hygiene and Public Health," by Parran; "Social Hygiene," by Winslow; and "The Decline in the Registered Mortality from Syphilis in England," by Newsholme.

"How much syphilis and gonorrhea is there in the United States?" is a question often asked. In an endeavor to answer this question incidence studies have been made in a number of cities by the American Social Hygiene Association in cooperation with the United States Public Health Service. Such studies have been carried on in Detroit, Atlanta, New Haven, Cleveland, and in other cities and countries. The report of the Detroit study was published in Venereal Disease Information, Vol. VIII, No. 6, of the United States Public Health Service. The following abstract of the report appeared in Public Health Reports, July 1st, 1927, issue:

"A real lack of dependable information regarding the prevalence of venereal diseases has been felt by those carrying on work in this field. There is none for any general population group or locality in the United States. Such facts are necessary for intelligent understanding of many of the problems. For this purpose, cities of the United States typical of various conditions were selected for study. Detroit was chosen for the reason that it is a large city where industrial conditions have produced prosperity. There has been relatively little unemployment in Detroit; wages have been high; the municipal policy toward prostitution has tended toward regulation; and certain conditions have prevailed which are generally believed to have venereal diseases as an accompaniment.

"The names of all the physicians were assembled, and 2,200 physicians and a group of 125 public and private hospitals and institutions and persons engaged in social work were visited. Osteopaths were included in this investigation. Of 2,180 physicians visited, 1,747 were found practising medicine. A simple questionnaire was sent to these physicians and institutions, asking the number of cases of syphilis and gonorrhea actively under treatment or observation on May 15, 1926. Two groups each for male and female patients were made—those under 16 years of age, and 16 years and over. A distinction was also made between acute and chronic cases. Cases of syphilis were defined as acute in which the infection had been contracted a year prior to the inquiry. The cases of gonorrhea were termed acute when six months and less had elapsed since infection. The physicians were asked to give their opinion as to whether there had been an increase or a decrease in the prevalence of syphilis of late years.

"There was some hesitancy on the part of some members of the profession to sign their names to the questionnaire; however, only eight, that is, less than one-half of 1 per cent, refused to give information. They were not specialists. The remainder cooperated, being assured that their information would be kept confidential. Of the 1,739 physicians who answered, 49 per cent reported one or more cases of venereal disease under their observation on the specified day. Thirty-five per cent of the hospitals and clinics of Detroit reported cases of venereal diseases among their patients.

"A total of 16,735 cases, 13.47 per 1,000 of the city's population, were registered in this inquiry. Of this total, 8,665 (51.7 per cent) were syphilitic, a rate of 6.98 cases per 1,000 population, and 8,070 (48.3 per cent) gonorrheal, or 6.50 per 1,000 population.

"About 95 per cent of the infections occurred among persons 16 years or over. During the years 1924 and 1925, 261 and 304, respectively, private physicians reported venereal diseases to the board of health. The totals of cases reported were 1,854 and 2,012, respectively, making an average number of cases of 7.1 and 6.6 per physician reporting. During the year ended May 31, 1926, 533 reports for syphilis were received from 145 physicians; during the six months ended May 31, 1926, 102 physicians reported 341 gonococcal infections. The total number reporting either or both diseases was 197.

"According to the answers to the questionnaire, 50 per cent were treating such cases. In Detroit, where the clinics are considered exceptionally well organized, the physicians still share largely in the treatment of venereal disease. This is shown by the fact that of 1,739 physicians of Detroit who cooperated, 49 per cent reported one or more cases.

"Regarding the trend of venereal-disease incidence, 387 physicians, 313 of whom were treating these diseases and 74 of whom were not, voiced their opinion. Fifty-three per cent of those treating cases reported a general increase in the incidence of syphilis and gonorrhea, 19 per cent a general decrease, 23 per cent believed it stationary, while 5 per cent of the answers could not be classified under the restricted groups of the inquiry. The physicians who registered increase had been treating an average of 19 cases; those reporting decrease, an average of 10 cases; those considering the number stationary treated an average of 12. Into this personal impression enter features of error, such as not appreciating that an increase in reputation may have helped them, or an increase of reputation of some man new in the neighborhood may have decreased the clientele. The

authors do not think that the impression gained by more than 50 per cent of the profession is reliable for the above reasons. Of 174 physicians who had no cases under treatment, 39 reported a decrease, 15 an increase, and 18 no change. One physician reported a decrease in old cases, the number of new cases remaining the same.

"The board of health, which examined almost 20,000 individuals in 1925, believes that venereal infections are decreasing. The reason for their conviction is that the percentage of positive diagnosis in the total number of individuals examined is decreasing. Among the reasons for the opinions given by those physicians who believed that an increase was occurring are lower morals in the younger generation, migration to the cities, with lower morals, neglect and ignorance of prophylaxis, and failure to control prostitution. Some physicians stated that a larger number of cases are detected than formerly, making an apparent rather than an actual increase. A large number of those finding a decrease attribute it to education of the people regarding dangers from venereal disease, the advocating of treatment, and the knowledge of prophylaxis. One physician, on the basis of 3,000,000 case records of employees and test results, sees a decline. He is not willing to pronounce on gonorrhea incidence in the same sense."

Legal Activities

Surveys of commercialized prostitution conditions have been made in 59 different cities in 30 states. The data secured was brought to the attention of the state or city health officers or of groups of representative citizens who had sponsored the investigations. Where conditions indicated the necessity of improvement suggestions were made.

A complete revision has been made of the Social Hygiene Legislation Manual and this will soon be ready for distribution.

State-wide surveys of commercialized prostitution conditions have also been made at the request of the New Jersey, Rhode Island, and West Virginia State Boards of Health for the purpose of locating the sources of venereal disease infections in the various communities in the respective states.

In cooperation with the International Migration Service, the National Council of Jewish Women, the Danzig Committee for the Suppression of Traffic in Women and Children, and the Travelers' Aid Society, many cases of individual girls alleged to be victims of traffickers were investigated.

Active assistance was given in the legislative campaigns of various states. In New York State this resulted in the passing of an amendment to the Injunction and Abatement Law, and the Wayward Minor Laws. In Michigan a "Wayward Minor" bill and one to improve court procedure were introduced. In Alabama assistance was given in drawing up a vice repressive bill which was introduced during the 1927 session.

Lectures were given at Chicago University and at the Philadelphia School of Social Work.

At the request of the Secretariat of the League of Nations a Digest of the laws of 54 countries on sex offenses was prepared.

This Association arranged for the attendance of five persons at the meeting of the International Bureau for the Suppression of Traffic in Women and Children, London, June 28th to July 1st, and prepared a memorandum in answer to each of five questions which were to be considered as a part of the business of the meeting. A full report of this meeting is given in the June-July issue of the *Vigilance Record*. In addition, an Annual Report was made to the Bureau, showing the cooperation of this Association with the United States Immigration Authorities in investigating 140 deportation cases involving prostitutes and souteneurs. These cases were referred to us by official and voluntary agencies in this and other countries.

For the Child Welfare Section of the Advisory Commission of the League of Nations, the Association prepared a memorandum stating our attitude toward the question of the censorship of motion pictures. This was done at the request of the Secretariat of the League of Nations. A memorandum was also prepared on the question of summer camps for children.

A Report of the Special Body of Experts on Traffic in Women and Children has been prepared by the General Director of this Association, who is Chairman of the Body, and the Director of the Division of Legal Measures, who was the Chief Investigator. This report (C. T. F. E. [Experts] 55, C. 52, M. 52, 1927, IV) was approved and accepted by the League of Nations, March 3rd, 1927, and has been printed. Copies can be obtained from the World Peace Foundation, 40 Mt. Vernon Street, Boston, Mass.

At the request of the Secretariat of the League of Nations, a Chart of White Slave Treaties was prepared and all available material, showing the attempts made by the various countries to use these treaties, was inserted. The Chart was then sent to the Social Section of the League of Nations for completion.

A paper, "The Attitude of Governments toward Foreign Prostitutes," was prepared for presentation by our delegate at the Annual Meeting of the International Abolitionist Association held in Antwerp, September 28th to October 1st.

Summary of Educational Activities

In the Colleges:

Have continued the Joint Study of Sex-social Education in the Colleges, with 202 College Social Hygiene Committees.

(a) Completion and publication of Report, Part I, presenting outlines for a series of non-departmental lectures to the four college years.

(b) Completion and printing of preliminary Report, Part II, comprising seven separate outlines of material for integration in the following college subjects: biology, psychology, sociology, physiology and hygiene, education, physical education, home economics.

A large proportion of the cooperating colleges are already making use of these materials.

Have given 236 lectures to students and faculties together with personal and group conferences by members of the Association's staff, with a total attendance of 60,000.

In the High Schools:

A questionnaire study of the status of sex education in the high schools throughout the United States was carried on in cooperation with the United States Public Health Service. The collected experience will be made available for the guidance of schools and the information gained will be used as a basis for further promotion of social hygiene education in the schools.

A month's Institute was held in each of two cities in cooperation with local community leaders and educators, with a view to training teachers and studying these educational problems. In one of these cities the superintendent appointed a committee to initiate and guide experiments in sex education.

Talks to and conferences with high school pupils have been held in a large number of cities.

Upon request suggestions, programs, outlines, and literature for the guidance of sex education have been furnished. Such requests are received daily.

An outline of sex education material for integration in the Junior High School curriculum has been submitted for critical study to 200 superintendents of schools.

112 talks have been given to high school audiences, total attendance 63,649,112.

In the Elementary Schools:

A manuscript dealing with the problems of sex education in the elementary schools and describing the experience of the "Oregon Experiment" of teaching biology, including sex and reproduction, in the grades, has been prepared for publication.

Have furnished guidance and literature to a large number of inquiring teachers.

In Teacher-Training:

Have cooperated in credit courses in sex education for teachers given in the summer schools of the University of Virginia and of William-Mary College.

Held week of conferences with the faculty and gave addresses to the student teachers of the Virginia State Teachers' Training College, which resulted in establishing a regular course in the school.

Held six weeks' institute for educators and teachers in the school system of a large city, resulting in projecting definite experiments in sex education in some of the schools.

Cooperated with the educators of one of the leading Negro normal schools in the integration of sex education in the curriculum.

Have given credit courses in sex education for teachers in the summer schools at Tuskegee Institute, the State Normal School at Montgomery, Alabama, and at Hampton Institute. These courses are now permanently established.

Have given one six weeks' course and one two weeks' course in sex education in the New York State Chautauqua, under the auspices of New York University.

An address was given on Sex and Education before the World Federation of Education Associations.

Other Field Items:

A study series of six sessions was given in the Brooklyn Central Y. W. C. A.

A two weeks' social hygiene institute was held in the Atlanta School of Social Work.

Participated in the Pennsylvania School of Social Work.

A social hygiene institute for Negro leaders in Chicago was held under the auspices of the Chicago Social Hygiene Council.

A three weeks' lecture tour among the Y. M. C. A.'s of Wisconsin was given.

A month's lecture tour among organized church groups was carried out.

Gave series of four lectures and four discussions to large audiences of men at the Brooklyn Central Y. M. C. A.

Emergency lectures were given and conference work held in the refugee camps of the flood area in the South by three members of the Association Staff.

Gave six weeks of lecture and conference work among the second generation of Japanese young people and their parents on the Pacific Coast.

Participated in a health survey of the city of New Haven.

Gave 1125 lectures to a variety of educational and community groups with a total attendance of 231,355.

In the Parent-Teacher Field:

Gave the services of a field worker to address mainly parent-teacher groups and to organize social hygiene activities among them.

Participated by addresses and forum discussions in the annual meeting of the National Congress of Parents and Teachers.

Participated by addresses and forum discussions in the meetings of six State Parent-Teacher Associations.

Prepared for publication of an outlined program for Parent-Teacher Association.

Gave 73 talks to Parent-Teacher groups, total attendance, 15,716.

In the Church Field:

Cooperated with the Federal Council of Churches in promoting social hygiene through the organized religious forces. A joint committee of the two organizations in directing the program and half the time of a staff member of the Council is devoted to promoting social hygiene.

Have developed a lecture itinerary among the organized church women, for a member of the Association's staff.

Have instituted campaigns in four cites in cooperation with the local church federations.

Have given lectures to and have held conferences with the church forces at the New York Chautauqua.

Introduced a two weeks' study course for church leaders at the Blairstown meeting of the New Jersey Council of Religious Education.

Have published in book form the first series of Sunday School studies for parents, prepared by the Association, published by the Methodist Book Concern.

New Publications:

Report Part I of The Study of Sex-Social Education in the Colleges. (Final.)

Report Part II of the College Study. (Preliminary.)

Manuscript for a pamphlet on the problems of sex education in the elementary schools.

Manuscript for a pamphlet on the Introduction of Sex Education into the Schools.

Manuscript for a pamphlet for boys in early adolescence.

Manuscript for girls in pre-adolescent years.

A pamphlet on "The Training of Youth for Parenthood."

Publishing as a pamphlet the chapter on Sex Hygiene in the book of Winslow and Williamson entitled "The Laws of Health."

A chapter on "The Church and Social Hygiene," for the book "The Church and Social Service" by Jerome Davis.

A chapter on "The Preparation of Teachers to Use Sex for Character Education," in a symposium on Sex Education assembled by the United States Public Health Service.

Preparation of a Parent-Teacher Study Group Program in cooperation with the United States Public Health Service.

Article on "The Physician and the Newer Social Hygiene" for publication in Clinical Medicine and Surgery, Chicago.

Preparation for publication of a classified, annotated list of social hygiene publications.

Published "Parenthood and the Character Training of Children," by Dr. T. W. Galloway.

Protective Measures Activities

The Division of Protective Measures has found that with the study of commercialized prostitution and the successful fight against it there has come a realization

that the protection of young people in danger of becoming sex delinquents is a vital link in the armament against both prostitution and the venereal diseases. The safeguarding of play and amusement facilities, whether they be commercial or free; the work which policewomen and visiting teachers carry on; in fact, the protective supervision of the community's youth in general, for the prevention of sex delinquency, should be woven into the social hygiene program. A dance hall may furnish wholesome recreation, or it may be merely a place for the promotion of promiscuity; a playground offers the same possibilities. Among other facilites, the motion picture theatre, the billiard parlor, the roadhouse, the cabaret—all demand supervision, as they are often used by the present-day exploiters of prostitution.

The protection of youth should receive even greater attention than the rehabilitation of sex offenders. Most young people are readily influenced by their environment, either toward clean, wholesome living, or the reverse, according as that environment is good or bad. Past emphases in this field have been on detention and rescue homes, reformatories, and other rehabilitative facilities rather than on measures which would tend to make such facilities less essential. The trend of protective measures today, however, is toward cleaning up, and keeping clean, the environment; toward the appropriation of more public funds for the prevention of delinquency rather than the use of these funds for salvaging projects.

Among the important activities of the Protective Measures Division during the year may be listed the following:

A series of lectures.

Preparation of bibliographies.

Outlining a protective program for the women police in New York City.

Consulting and cooperating with community protective agencies throughout the country.

Contributing general advisory and clearing house service, giving specific information on methods and practices in the Protective Measures aspect of Social Hygiene.

Physical Therapeutics and Radiotherapy During 1927

A. Bern Hirsh, M.D.
New York City

(Concluded from page 20, January issue)

Radiotherapy in Tumors and External Diseases

Radiology in Intraoral Cancer.—*Symposium in Radiology.*—Nov., 1927.—Ewing from the angle of the pathologist spoke of the great variety of tumors at the cerphalic end of the body including the oral cavity. Cancer of the lip occurred in two very dissimilar types which apparently called for different plans of treatment, yet he believed that some form of radiation was superior to the knife in both these types—infiltrating and papillomatous. The same may be said of the two types of cancer of the tongue —the acute cancer in the healthy tongue and the slow-growing type in the diseased tongue. This also holds good for other intraoral cancers. In certain cases diathermic coagulation is a useful adjunct. He sums up with the statement that all intraoral cancer is radiosensitive. Burnam was opposed to biopsies and partial use of the knife and still adheres to radium although he has sometimes had to discontinue it until some new technical advance has arrived. Radiation in the intraoral cancer should come under the head of radiosurgery as the object is pure destruction. He has no sympathy with attempts to stimulate the tissue defences. Duffy, representing Quick for the Memorial Hospital, called attention to the great advantage of prophylactic and curative radiation of the cervical glands. Judd and New of the Mayo Clinic advocated purely surgical methods of the most radical type—extirpation of primary foci and block dissection of the lymphnode area. Pfahler uses biopsy in connection with electrocoagulation of the primary growth and follows with intensive radiation of the lymphatic area. In discussion Soiland stated that this set of papers is the most valuable ever published on the subject.

Bone Metastasis of Thyroid Tumors: Radiotherapy.—S. Ginsburg (New York).—*American J'l of Roentgenology,* September, 1927.—The author gives a complete summary of our knowledge of this subject (skeletal metastases) with his personal experience. The response of these metastases to radiation has not been striking but this seems to be due rather to technical difficulties than actual failure of the principle involved. Two case histories are given in great detail. In the first case the thyroid growth proved to be radioresistant but the metastases in the cranium, spine and pelvis have been kept under control for at least five years, although new skeletal foci continue to appear. The nature of the primary growth was not clear—either a mixed cell sarcoma or an adenocarcinoma was present in some of the metastases. No surgical intervention is mentioned. In the second patient there was a long history in which failure to recognize the nature of the condition was evident throughout. A bony tumor of the ilium was regarded as primary. There was no primary growth at first in the thyroid save ordinary adenomatous nontoxic goitre. Two metastases in the ilium and right femur were thought examples of sarcoma. The goitre at a later period underwent malignant degeneration with change in diagnosis of the skeletal metastasis to thyroid gland metastases. Under high voltage röntgen treatment the latter improved remarkably. The general condition also improved and 30 lbs. weight were added. Although she has a valvular lesion of the heart her general condition is so satisfactory that she wishes to break off the treatment for fear of losing her situation. The slow growth of many of these thyroid metastases makes them peculiarly responsive to radiation.

Endotheliomal Myeloma.—L. K. Sycamore and G. W. Holmes (Boston).—*American J'l of Roentgenology,* September, 1927.—This rare tumor, known also as "Ewing's Tumor," is of special interest to radiologists because of its lack of resistance to Röntgen rays. The disease is a new one which must be sharply distinguished from osteogenic sarcoma and also from angio-endothelioma. Connor, who has re-

cently collected and analysed the known cases which involves some correction of old diagnoses, controls 54 cases, nearly all of which had been given the diagnosis of endothelioma. As the paper of Connor only appeared in 1926 not much can be added and the reader is referred to this paper in the Archives of Surgery, vol. xii, page 789. The authors add a personal case which evidently is not included in Connor's series. It occurred in a young man of 22 who presented at the same time tumors of the left ulna and right femur with a röntgen picture which pointed to lung metastases. The first diagnosis was osteogenic sarcoma. The patient received a few treatments of *x*-rays for the arm and chest (the femur is not mentioned) and although not much change was expected the patient benefited and put on 18 lbs. weight. He came back to the hospital for symptoms in the femur. There was also fever and evidence of fluid on the chest. The rays were applied to all regions with renewed improvement but after a short respite he died with cyanosis and dyspnoea as chief symptoms. Autopsy showed extensive metastases and secondary lesions in the thorax and acute pericarditis. The skeletal tumors were not examined but study of the metastases pointed to Ewing's tumor. Despite the striking response to the rays on the part of the chest lesions it is not pretended that the prognosis had thereby improved.

Bone Sarcoma.—A. Kolodny.—*Surgery, Gynecology and Obstetrics,* 1927, vliv, p. 1.—This elaborate study has value for the röntgenologist and under each division the author sums up the röntgen therapy. In osteogenic sarcoma no advances have been made. The inoperable cases are being treated by irradiation and Coley's serum as a matter of course but it is now admitted that both radium and *x*-rays are of value in the operable as well, although only in a minority of cases and no brilliant results have been achieved. Ewing's tumor is known to be more responsive to radiation than osteogenic sarcoma, and heavy radium plus the rays will suppress the growths for the time being and even cause some regression; but these good results are offset later when the tumor loses some of its radiosensitiveness. Myeloma is rare and often undergoes spontaneous arrest. Radiation is partly contraindicated because of the blood cell count. Of the unclassified tumors angio-endothelioma hardly exists since the discovery of Ewing's tumor and the author does not quote any treatment, which is also the case with another rarity, extra-periosteal sarcoma. Giant cell tumor comprises growths with three different types of giant cell and only one of these is entitled to the name of giant cell tumor. The condensed account of Kolodny's paper in the October number of Radiology does not mention treatment under this form.

Röntgen Rays in Lymphosarcoma and Hodgkin's Disease.—Des Jardins.—*American J'l of Röntgenology,* Feb., 1927.—The author finds the careful use of the rays of great value in both of these conditions. The various symptoms which are due to these adenopathies disappear more or less completely, the results depending on a variety of factors, as the duration, the intensity of the process, etc.

It is an error to limit the radiation to the superficial palpable chains of lymphnodes, for to get the best general results one should endeavor to reach the mediastinal and paravertebral chains as well.

Röntgen Therapy of Affections of the Lymphoid Tissues.—Evans and Leucutia (Detroit).—Same J'l, Jan., 1927.—The authors consider the entire sum of the lesions of the lymphoid tissue, subdivided as follows: inflammatory lesions; neoplasms and the intermediate group including Hodgkins' disease, leukemia, etc.

The general tone of the article is unfavorable, most of these lesions being relatively unresponsive. Those in which good results may be anticipated appear to be limited to lymphosarcoma. As for Hodgkin's disease appreciable results may be obtained only when begun very early. In general the rays are either negative or only of a certain palliative value.

Röntgen Rays in the Treatment of Psoriasis.—P. D'Amore, *Archivio di Radialogia,* Jan.-Feb., 1927, iii, 137.—In 1918 Brock introduced the treatment of psoriasis by radiation of the thymus and thyroid, reporting good results in several cases. The thyroid was incidentally rayed but no other organs. The author tested the method on ten patients, sessions one month apart, dose 3 to 4 Holzknecht units, aluminum filter 3 to 4 mm., focus distance 24 cm., duration 12 minutes, voltage 60,000, spark gap 12 cm., Radiagna apparatus, Coolidge tube, etc. Nine of the ten patients were completely cured and the tenth may have been but dropped out of sight. Itching ceased at the start. With the assumption that the glands are functionally defective the dose is meant to stimulate but not to the extent of causing overfunction—hence the long intervals between treatments. The measure will probably not aid all cases for the causation may differ and there may be different causal types. If thyroid-thymus insufficiency is the cause radiation *à la* Brock ought to give good results.

The *X*-Ray Treatment of Superficial Pyogenic Infections.—I. Gerber (Providence).—*The Radiological Review,* September, 1927.—This class of infections is usually regarded as chiefly surgical. Within the past few years, however, interest in the radiation treatment has been revived although thus far there is no mention of it in the textbooks in English, French or German. In carbuncles there is usually a satisfactory clinical response and in 12 to 24 hours the pain will have ceased. If applied very early in the case the carbuncle may be aborted and after this the lesion may be made to break down into one or several abscesses which may then be opened and drained. Results in carbuncle of the face are particularly good and it is in this group that surgical intervention is dangerous; the operator may dispense with incision for the lesion should open and drain itself. Treatment is shortened, the cosmetic result is better. But although the facial group requires no surgery this cannot be said of the neck, where more or less is often required. Practically the same may be said of boils, where the pus is thin without core and readily evacuated. Favorable results are also obtained in felons and phlegmons. It is not easy to explain the rationale of the action. Tension is somehow lowered which relieves pain and some process of immunization against the disease is evidently set in motion. The spark gap is 8½ in., skin distance 12 in., filter 4 mm. aluminum; dose 5 ma.; exposure 4 minutes. One treatment may answer and when others follow the interval should be 3 to 6 days.

Radiotherapy in Gynecology

Indirect Radiation in Benign Gynecological Affections.—P. Werner.—*American J'l of Obstetrics and Gynecology,* 1927, January.—The author begins

with radiation of the spleen for all forms of hemorrhage from the genitals. A field 15 x 10 cm. is drawn above the region of the spleen as marked out by percussion, distance 40 cm. and one-third of the erythema dose. All kinds of hemorrhage were represented and in 70 per cent. of all cases treated even one irradiation was of benefit. Repeated irradiations, however, were of no added benefit so it is assumed that one session favorably affects some temporary disturbance. Results were much better in the melena and vomiting of blood in some infants where a singe irradiation of the spleen of 5 minutes' duration produced a complete removal of the symptom. Metrorrhagias which benefit permanently are those associated with fibroids of the uterus and climacteric bleeding. Irradiation of the liver is worth a trial if the spleen proves negative. In hypo- and dysfunction of the ovaries irradiation of the hypophysis has proved of value, the field lying between the orbit and the external ear. In both amenorrhea and dysmenorrhea surprisingly good results were obtained and recurrence after some months yielded to a second course. In some patients results are quite negative. The treatment may be tested also in the toxemia of pregnancy.

Radiotherapy of Inflammatory Adnexa Diseases.—Gambarow.—*Strahlentherapie,* 1927, xxvi, 4.—The author has tested weak radiation, medium strong rays and temporary castration in a large material composed almost wholly of chronic or subacute gonococcic infection and when rays of sufficient strength are used believes that radiation is superior to any other form of conservative treatment. The weak rays are of little therapeutic value but are strong enough to damage the function of ovulation when this is not desirable. With medium strong rays he obtained brilliant results in one fourth of the cases and the total to be benefited was about 60 per cent. as against 40 per cent. unimproved. In a third series temporary castration was intentionally produced in 23 patients, 14 of whom were clinically cured while in the other 9 the pains were removed.

However, temporary castration causes deficiency symptoms in 75 per cent. of all cases and should be limited to women who do not wish any more children and after all other conservative measures have failed.

Results and Value of Röntgen Castration.—P. Feldweg.—*Münchener medizinische Wochenschrift,* 1927, no. 6.—The author has brought about Röntgen castration in 220 women for a variety of conditions as hemorrhagic states, inflammatory adnexa conditions, menstrual disorders, myomas, heart and lung diseases and habitual abortion. The results showed great want of uniformity in regard to deficiency symptoms but the judgment of the author as to value of the method is that it is a valuable adjunct to other measures while its freedom from all mortality in comparison with other methods must be kept in mind. By careful selection of cases many undesirable results can be prevented. The author permitted his patients to state their own experience and opinions as to the value of this resource after the lapse of some time. The judgments of the women were found to be influenced unfavorably in many cases by the criticism of the outside world, that of other physicians being unfortunately not favorable in certain cases.

Radium in Internal Medicine

Radium in High Blood Pressure and Buerger's Disease.—Allen, Bowing and Rowntree (Mayo Foundation).—*J'l Am. Med. Asso.,* Jan. 15, 1927.—The authors have taken up investigation along a line of activity which is old but fallen into some disuse. On its first introduction radioactive water was tried out as a remedy for high blood pressure and the authors have resubmitted the question using radium chloride by intravenous injection. It often did reduce the tension and at times considerably but the same results may be obtained by other and more available means. Secondly, it was tested for relief of many painful conditions, notably in thromboangiitis obliterans, and while it gave some relief it showed no superiority over other measures now in common use. The authors therefore conclude that internal radium possesses no special advantages.

Röntgen Rays in Angina Pectoris.—L. C. Ecker.—*Radiology,* Feb., 1927.—The author reports but a single case of clinical angina and no attempt at an accurate diagnosis seems to have been made. The heart and great vessels appeared to be normal but the blood pressure was 180 systolic. Attacks followed overexertion or emotional experience and in addition to the chest symptoms the pain radiated down the left arm. Nitroglycerine was used as a palliative and sympathectomy was refused. Röntgen rays were applied at nearly monthly intervals, 5 ma. dose, 9 in. gap, 5 mm. aluminum filtration, 10 in. focal distance, 6 minutes' duration. Elsewhere stated that some of the intervals were only 10 days. Doubtless the author made 12 treatments during 11 months but with no attempt to make the intervals monthly. These were decided by the severity of the symptoms. The patient feels greatly improved but still has attacks and has to use nitroglycerin for them although they are less severe and do not run down the left arm. (Abstract in *American J'l Röntgenology,* Sept., 1927).

Treatment of Asthma and Spasmodic Coryza by Roentgenotherapy.—Pasteur-Vallery-Radot, Gilbert and others.—*Bull. et mem. Soc. de Hopitaux,* 1927, no. xxi. p. 456.—During 18 months the authors have treated 80 patients attacked with spasmodic coryza, with or without asthma. Of this total 52 have remained under observation. The treatment consisted of 10 or 12 sessions at the rate of 2 a week. The structures radiated were the thorax and spleen, one or both, rays of medium penetration, dose 2.5 Holzknecht. This first course was followed by a second and then by a third. Of the 52 in the series 12 were cured while 21 obtained some relief and 19 did not benefit at all. The benefit in some cases was prompt, in others delayed for as much as a year. Results agree with those recently reported from Germany. It is impossible at present to account for the benefit received and to forecast the type of patient to benefit from the treatment. It is clear that we should not give up treatment in obstinate asthma until the rays have been tested.

President Coolidge on Federal Aid to States

A few years ago President Coolidge expressed himself as definitely opposed to that plan whereby the federal government allocates certain sums to the states which are willing to allocate similar sums for special purposes. In his budget message submitted to Congress, December 7, the President again announced his views on this point. He pointed out that the authorization for the promotion of the welfare and hygiene of maternity and infancy expires in 1929, and that the last extension of the act was approved with the understanding that its administration during the two years would be with a view to the discontinuance of federal aid thereafter.—*J. A. M. A.*

The Rationale of the Newer Medicine

MARK H. SMITH, M.D.

Los Angeles, California

(Continued from page 24A, December issue)

Copyright 1928

XVII.

Successful treatment of cardiac disturbances finds the focal point centers in the preservation of the rest interval in the heart cycle, with increased energy production and control ensuing upon the employment of this stratagem.

The effect that is produced does not reside in the feature of a forcible propulsion of circulating blood, due to the benefit from rest, but the greater principle, that of relief to the intrinsic cardiac circulation, through proper drainage of cells and minuter arterioles; and the relief of pressure trauma and local "acidosis," which institutes allergy, is the direct benefit which ensues on slowing circulation and effecting heart rest.

Armed defense is the response to the threatening attack of a foe. The cell has learned that instigation of danger occurs in the onset of allergy, and this merits immediate defense in the measures that the organic cell employs in function. Allergic attack is the stimulus for cell activity. Allergy institutes altered potential and beginning of "acidic" state. The cell rectifies the change in ionic concentration, by reactivation of elements and restoration of normal potential. This is the marking of the impulse of rhythm, as the pendulum's swing denotes the measure of rhythmic timing.

In consequence of the phenomena of cell response, and as depicted in the cardiac example, the specialized heart structure has little need for nerve impulse to inaugurate rhythmic contraction; the whole cardiac structure may be likened to the storage battery, under constant process of charge and discharge, mirroring the identical process that institutes nervous response.

Activation, as communicated through the liberation of oxygen, is carried through placental osmosis to the embryonic cell, whether cardiac or structural. The pulmonic routing that occurs after birth is more direct, but in either instance the same effect occurs, with readiness of interchange of oxygen for CO_2 following. The process is dependent upon the institution of allergy, and after the manner quoted for the production of immunal processes, as the response to the effect of antigen uniting with amboceptor and complement. The same effect occurs with the presence of allergic toxin, controlled by activating oxygen in its conducting proteid, with cuorin as the lipoid for cardiac response to occur.

We have noted the readiness of response of nitrogen compounds, the activity of lipoid, the allergic effect of permeable cell wall, and the production of urea with ease and its ready escape through the possession of colloidal response. The muscular production of urea and a rather excessive arborization of minute blood vessels in the heart, serve to illuminate the readiness of response that is inherent in and attends the activity of cardiac structure. These are but some of the outstanding factors which endow dependant structures of the vertebral type with rights in function and privileges for adaptive conformation to demands for any form of existence.

Howel found in the heart a large supply of substance which stabilized its function and created cardiac energy. This substance did not disassociate either spontaneously nor in response to the effects of external stimuli, but chemical interchange converted it to an unstable compound. Inactivity occurred at the end of diastole, when disassociation of elements resulted in systole.

Any activation of organic cells is produced by the effect of some constituent of the plasma. The effect results from the fixation of elements by oxidation. Within the heart this shows in a marked production of energy.

No more prominent an example of fixation of elements occurs than is shown in the function of the heart, where the effects of combustion are so elaborately provided. No greater evidence of evolution of the vertebral cell is seen than is displayed in heart response, as so definitely revealed in studies of embryonic circulation of the chick.

Benefits from a standardized temperature for the cell are directly related to the response that is shown by the cardiac mechanism. One has but to observe the effects of fasting for a period to mark the lowering of temperature which occurs from lessened metabolism. Slowing of pulse and dropping of systolic and diastolic blood pressure, show as the effects of minimal food supply upon cardiac response.

Experiments have shown that cooling the auricle delayed contraction, and this adjustment has been used in the development of the thermic environment of the cardiac cell.

The development of the ventricle is the result of adaptation, a requirement for the sensitivity that occasions auricular response. It exists as a compensatory mechanism. The refractory period of ventricular response follows conduction of auricular potential. This results from oxidation, which stimulates activation. A relative cooling occurs in the refractory inactivity which ensues upon the sudden defixation which precedes systole. A process of condensation, as a cumulative phase, occurs in the ascent of the ensuing complex.

Grigaut found that fat and lipoids originate in all living things. Lipoids or vitamines have profound effects upon the cell, stimulating both growth and activity. Incentive to maturity, vitamines act as hormones, being the key to physiologic process in accelerating functional response.

Lipoids are necessary to the erection of the skeleton. To be fully elaborated, as from food sources, prolonged extraction of lipoids may be required. This often demands a variety of solvents. Of necessity, this attaches to the elaboration of lipoids from foods which course through the processes of digestion and absorption in the gastro-enteric tract.

The young organism requires vitamines in excess for skeletal erection. Both quantitative and qualitative needs are demanded by the organism, which is unable to synthesize amino-acids, stearins and certain lipoids.

Lipoids differ radically in physical aspects and physiologic response, as furnished by different organs and glands.

Amino-biogene is a term for a complex structure that is related to fat, and which has been deemed the biologic principle of the cell. It has been found only in the heart structure. Its exploits, properties and faculties are deemed specific and representative of the nitrogen element that the structure contains. A cardiac lipoid best represents the substance called amino-biogene.

As found in the heart, amino-biogene has been termed a mono-amino-phosphatid, an animal base showing markedly exciting properties, stimulating tonic contraction. This is specifically different from a lipoid which stimulates contraction only, and serves to designate a specific lipoid for prolonged or tonic effect.

Lipoids usually attach to the organs which have the same activity and specificity as those which originate the lipoidal form supplied, as the liver lipoid activates hepatic function, and as the corpus luteum lipoid, which is a pentamino-diphosphatid, found only in the corpus luteum, displays its activity in corpus luteum benefit. Kidney lipoid as carnaubon, and pancreatic lipoid as vesalthin, direct their benefits to those organs. In consequence, lipoids or vitamines exert their influence, to a great extent, upon certain responsive organs, as the liver, brain, spleen, heart and other functional representatives of the organism. The blood itself reacts to lipoid influence. Like other recognized and active agents, we must regard the blood as having organic activities. It has variety in its fields of endeavor, and it is intent upon a host of duties, co-operating with innumerable functional activities and various component bodies.

Unable to synthetize all its required lipoids, the organism becomes sensitized to the introduction of lipoids to which adaptation has not been provided.

Despite the seeming disparity that exists among the constituents of the cell, freedom in reciprocity exists between the simple and complex organic compounds. A fatty compound is engaged in promoting this interactivity within the cell and between cells composing structure. This is outstanding in the unique but specific reactions and reflexes of the body, so expressively shown in the neuro-muscular structure of the heart.

The energizing group of animal organism was formerly called lecithins. This term designated a compound with high fat radical and molecule larger than true fat, fixing a variable nitrogenous combination and designating a specificity or variety of combination. The term lipoid now replaces this.

Whether quartenary or quintary in construction, lipoids contain nitrogen with other elements, as carbon, hydrogen and phosphorus, or combine oxygen in addition as a basic part of the formula.

The influence of nitrogen, as in protein, upon the organism, and the susceptibility of the animal species to trauma of soft tissue, show the necessity of the cell for stabilizing defense. This is provided in hereditary characteristics, wherein the cell is protected against injurious attack, or prepared for a definite purpose of minimizing the effects of trauma. This includes a benefit in reparative supply and response, engendered through the utility of calcium. This gives stability to structural form and a certain amount of resistance to the devitalizing effects of "acidity."

Growth of the embryo through the dialytic effect of the placenta is due to a provision in specific lipoid, which fixes calcium in the cell. Following delivery, the digestive tract assumes the burden and completes the act, fixing calcium for maturing the skeletal structure.

All types of organic cells are required to respond to the effects of catalysts.

Benefits in nutrition, for the existence of the organism, and as insured by catalysts, requires certain elements, such as are provided in complement. These stimulate activity in all living structure.

Certain organic cells are related to the production of complement, as it is required for developing and specializing cell structure.

The absence of immunity with consequent toxicity of the cell is due to inactive or defective complement, a condition which may arise from many causes.

Sajous expressed an organic provision of complement in the idea of some specific principle being carried in the blood to engender metabolism.

XVIII

In lecithin, Blake and Bacon found phosphatid, a soluble substance, with the indication that the spleen and bone marrow provided complement. Wange found in dried blood an extract of a lipoidal character which possessed organic properties, suggesting its relationship to complement.

The direct relationship of lipoids to the occurrence of antigen remains unestablished. Levene and others found the constituents of lipoids were kephalin and lecithin. The specificity or distinction in lipoid reposes in the proportional combination of these two substances, and not in any difference that exists between the two phosphatids.

Lipoids are destroyed in the lungs, as an evidence of oxygen effect. Active formation of lipoids in cells corresponds to the stages of oxygenation and reduction of compounds occurring in the blood. Fatty substances are consumed as an oxidation, and lipoids are generated by the process of reduction, that is, in the removal of oxygen from certain compounds.

The additionally required and accessory food factors for the cell cannot be produced by the animal organism, and, in consequence, animals are dependent upon the plant kingdom, either directly or indirectly, for food supply.

Lipoids that are acquired through food supply elect organic fixation. Lecithin traverses the digestive tract without undergoing alteration from any lipolytic substance. After absorption into the circulation, lipoids increase blood urea. This reveals one of the effects of lipoidal activation of nitrogen. Young animals which are dependent upon a mammary supply for nutrition secure lipoid through nursing. The mother is required to secure vitamines commensurate with her own requirements, and in addition those for the needs of the nursing.

Lipoids are related to the production of complement, and yet act as antigens. Ehrlich contended that antigens irritate cells to cast off antibodies for the purpose of neutralizing toxic substances. Walsh deemed that cells neutralized toxins through the irritation of bacteria causing them to eliminate self-protecting substances and also to nullify the defensive products created by cells under attack. In this way, lipoids act to stimulate the production of immunizing activities. Massert found that phagocytes are attracted by secretions that are produced by non-virulent bacteria, but are repelled by secretions created by virulent organisms of the same strain. This is quite evidently a lipoidal effect.

Amboceptor is fairly resistant to the effects of heat and drying, but complement is unstable and is easily destroyed in the body. Within the organism, amboceptor and complement unite for production of immunity. The same combination occurs in the test tube with the production of hemolysis, such as occurs in the systemic circulation.

Sensitization does not ensue upon union of antigen and amboceptor alone, but requires the presence of complement to rapidly release toxic nucleus.

Antigen source includes the erythrocytes, which, the bacteria, respond to the proper combination to create lytic disassociation. Hemolysis results from various agents acting as antigens; the trauma of erythrocytes that occurs is seen after hypotonic fluids as well as from toxins and "acid" states.

To a material degree, immunity is inherited. Learmouth showed that guinea-pigs could inherit an immunity to typhoid. Other experiments showed that the same type of animals could suffer allergy from the cutaneous dust of associates.

The antigenic effect of lipoids is so far an unmeasured quantity, but is readily perceived in the response of the Wasserman test. This reaction serves to include lipoid involvement in the occurrence and reactions of tuberculosis and other allergic manifestations.

Vitamines are destroyed by heat and preservation methods for foods, as drying. This is the effect that attends the destruction of complement.

Weil found leutic erythrocytes resisted hemolysis from cobra venom. This indicates that a change in complement, similar to the Wasserman response, involves lipoids as being the active agents in this effect.

Injections of peptone disturb the equilibrium of lipoids in the body. In this way allergy is produced. Through disturbance of lipoidal standardization, processes of immunization are attacked. This is very apparent in the fact that lecithin, a lipoid, increases blood urea and cholesterol.

Lipoids are provided by the plasma. Herb found that fat-related substances are digested parenterally, in organic cells, by means of a ferment. This ferment is present in the protoplasm but not in the serum. Phagocytes digest fats as lipoids, by means of a ferment such as lipase.

The proportion of and response of fat, as well as its alteration in the blood, are related to and have a marked effect upon organic and nervous responses.

Although lipoids form a fine emulsion in water, they are not definitely recognized as colloids, but answer well to the dynamic effects of bicolloidal demands.

Stepp and Hopkins showed lipoids effective in producing immunity, but the process for so doing was undesignated.

Diets that are deficient in vitamines lessen the immunity of the organism to changes due to pathology. For instance, insufficient vitamine A is accompanied by frequent infections of the middle ear and accessory sinuses of the nose; a loss of protective property is apparent, which is ordinarily directed to the defense of these exposed areas.

Nitrogen combinations, in general, are definitely protected by lipoids. In scurvy, deactivation of nitrogen compounds occurs, lipoidal supply being impoverished.

Some lipoids are rich in nitrogen, as the placental lipoid. When there is insufficient proper lipoid in the diet of pregnant animals, placental extravasation occurs, with invariable reabsorption of the product of conception, as an evidence of allergy and lipoidal loss.

The vessels of the umbilical cord have a higher concentration of crystalloids, potassium, sodium and amino-acids than has the maternal blood. This indicates that osmotic exchange is not the provision of these substances, but that some placental lipoid or secretion has the effect of holding them in higher concentration.

Diets that are perfectly satisfactory in protein, carbohydrates and salts, but deficient in vitamines, create loss of weight, accompanied by muscular inco-ordination and involvement of the nervous system, all of which is quickly antidoted by the supply of proper lipoid.

Specific lipoids are supplied for conduction and expression of the nervous and cerebral functions. Experiments upon dogs showed that brain substance equaled muscle in efficiency, and surpassed the energetic response from fats. These have a minor rôle in the formation of tissue, being limited to a dynamic effect for sparing nitrogen, as a fuel.

The effects of a deficiency in vitamines upon the mental powers are marked. Extreme nervousness, apathy, excitability, waywardness, insomnia and other typical manifestations of nerve instability and eccentricity are produced by lipoidal loss.

Attachment of lipoids to related organs of source is not invariable, but the effect upon related or associated organs is at times marked.

Administered *per orem*, to rabbits, lecithin fixes in the muscles and liver, but not in the brain, which is the lipotropic organ for this lipoid.

Lipoids and fat-solubles are important in developing the skeleton, through the supply of anti-rachitic substances.

Ovarian or testicular lipoids, given to the same sex and species as the providing source, as young rabbits, produced respectively ovarian hypertrophy in females and testicular hypertrophy in males.

Heart, kidneys and adrenal lipoids produced physiologic effects upon similar organs in tested animals. Lipoid from the medulla or the adrenal increased heart and kidney size, while lipoid from adrenal cortex did not alter heart size, only slightly affected kidney size, but did disturb the hair-growing system and pigmented the skin.

Diseased organs show diminished lipoid. Laennec's cirrhosis, for example, was attended with but a third to half of the customary hepatic lipoid.

Fatty degeneration increases lipoid. Chronic nervous infections and tabetic involvement affect the lipoid of nerve marrow. Renal sclerosis shows a reduction of kidney lipoid. Hepatic lipoid is reduced in phosphorus poisoning and in liver changes from other causes.

Ovarian lipoid given to pregnant women does not disturb conception, but stimulates embryonic growth and engorges the mother's breasts.

Corpus luteum lipoid congests and hypertrophies the uterus, creating abundant serous secretion in mammary glands, and reduces the rut cycle one-half in castrated female animals.

Hepatic lipoid stimulates liver growth, systemic growth and increase in weight. The lipoid from erythrocytes fed to rabbits which have been bled causes rapid regeneration and restoration of erythrocytes.

Miles and Feng found that osteomalacia represented a factor of deficiency which inactivated calcium.

Blum, Delaville and Van Caulaert found that disturbances of the calcium balance involved more than a deficience in lime. The altered state was not corrected by administration of calcium, but requires lipoids, in addition, to remedy it.

Certain lipoids are hemolytic, others oppose lysis. The erythrocytes possess a lipoid which guards them against the effects of soaps and saponins.

Certain bacteria have lipoids which produce hemolysis, acting upon cell structure. These lipoids are dependent upon certain conditions of the structural elements with which they can combine for their characteristic reactions.

Various toxic influences are carried by lipoidal associates. Snake venom depends upon a lipoid, in cobra-lecithin, for its detrimental effects.

XIX

Phytosterol, found in seeds, growing shoots and nearly every vegetable cell, finds in cholesterol a counterpart occurring in nearly every animal cell.

No functions have been directly linked to the stearols, of which cholesterol and phytosterol are types, but their importance in processes of activation is profound.

Cholesterol is ternary, as it is composed of carbon,

(Continued on page 24A)

Medical Times

THE JOURNAL OF THE AMERICAN MEDICAL PROFESSION

A MONTHLY RECORD
OF
Medicine, Surgery and the Collateral Sciences
ESTABLISHED IN 1872

EDITED BY
ARTHUR C. JACOBSON, M.D.

Contributions.—EXCLUSIVE PUBLICATION: Articles are accepted for publication on condition that they are contributed solely to this publication.

When authors furnish drawings or photographs, the publishers will have half tones and line cuts made without expense to the writers.

SUBSCRIPTION RATES
(STRICTLY IN ADVANCE)

UNITED STATES (Including Alaska, Cuba, Mexico, Porto Rico, Hawaiian and Philippine Islands)	$2.00 per year
CANADA	$2.25 per year
FOREIGN COUNTRIES IN POSTAL UNION	$2.50 per year

SINGLE COPIES, 25 CENTS

Definite written orders for THE MEDICAL TIMES are required from all subscribers, to whom the journal is thereafter regularly forwarded.

Notify publisher promptly of change of address or if paper is not received regularly.

Remittances for subscriptions will not be acknowledged, but dating on the wrapper will be changed on the first issue possible after receipt of same.

All communications should be addressed to and all checks made payable to the publishers.

MEDICAL TIMES CO.
ROMAINE PIERSON, *President*
ARTHUR C. JACOBSON, *Treasurer*
GEORGE B. CREVELING, *Secretary*

95 Nassau Street - - - New York
Cable Address: Ropierson, New York

NEW YORK, FEBRUARY, 1928

Obstetric History and the Feminists

During the sixteenth century childbirth was presided over by midwives, even in the best walks of society. In the seventeenth century there were some celebrated midwives, e. g., Louise Bourgeois, who delivered Marie de Medici six times, Justine Siegemundin, who published a treatise on obstetrics in 1690, and Jane Sharp, authoress of the *Compleat Midwife's Companion* (1671). During the eighteenth century this specialty began to be practised more and more by male obstetricians, and just so soon as they interested themselves in the art and science of midwifery, just so soon was notable progress registered. The pioneers left great names: Mauriceau, Portal, Van Deventer, Ould, Smellie, Levret, Fried, Roederer, Baudelocque, Camper, Boër, Saxtorph, Palfyn, De La Motte, Berger, Sigault, Siebold.

It seems odd that in a field in which women held almost undisputed sway down to the time of the galaxy of obstetricians listed in the foregoing paragraph there should have been so few distinguished midwives. Lack of educational facilities comparable to those enjoyed by men cannot wholly account for the failure of obstetrics to make notable progress at the hands of women, for even at the school of Salernum, dating from the ninth century, there were women as well as men professors, among the latter the famous Trotula, who wrote a treatise on gynecology. The names of women students and teachers are also met with in the early history of the ancient school of Bologna, among them Alessandra Giliani, the first to practise the injection of the blood vessels with colored liquids.

Here is an instance in which women may be said to have had what practically amounted to a monopoly in practice for hundreds of years, without a single achievement that has stood the test of time to their credit. Not until Van Deventer was the mechanism of labor so much as considered (1701).

It is possible that the feminists can explain this curious phenomenon easily, and we are willing and even anxious to be enlightened by them, if they can qualify. But at the present writing the matter would seem not greatly unlike the position of vast numbers of privileged women in, say, the field of music, where they have had golden opportunities and have displayed great talent but little creative power.

Even in a man-made world it would seem that woman's creative record should be better, if she possesses inherent powers and has enjoyed exceptional opportunities and training at times.

No clever midwife of the old dispensation was ever faced by greater resistance than was Semmelweis, who, about 1840, discovered that uncleanliness was the chief factor in the etiology of childbed fever, and who was ridiculed, hounded and persecuted to death (literally).

It will not do to plead that behind every creative man there has always stood some woman, at once a source of energy and an indirect participant in the production of results.

And it will not do to plead biological creativeness—consecration to motherhood—tremendous sapper of energy though it be.

Woman the midwife—man the obstetrician. That has always been the situation in medicine. Is it so in all other departments of life?

What say the feminists, themselves privileged in great part—and, in the main, sterile in more senses than one?

The Prohibition Outlook

Mr. William Allen White, the distinguished Kansas editor, advances an interesting theory as to the reason why the Volstead act is so vigorously violated. Drinking is supposed to be a mark of social distinction, says Mr. White, and our rich lawbreakers have an inferiority complex which is manifested by their noisy and conspicuous indignation against the law. "I mean by 'inferiority complex' in connection with booze just this: these rich people would like to be fearfully respectable. Respectability is their chief claim to distinction. But they are abetting lawbreaking by conniving with the low-living bootlegger. They know it. So they flaunt it openly, defiantly, thinking that mere noise and bluster will make their connivance more excusable. Thieves and harlots among themselves have exactly that attitude of blatant bluster to cover their sense of shame."

Mr. White thinks that these lawbreakers will get over their distemper, come through, and be as good prohibitionists as any one. "The life history of prohibition is now well known, definitely charted." The lawbreakers are "merely going through a common phase—an early phase of the career of a community which, sooner or later, in another decade or so, will reject booze as economic waste."

According to Mr. White, the prohibition philosophy is not that it will make others good, but that it will make life in a complex civilization safer and simpler and more profitable. "Prohibition increases the labor efficiency of men, piles up bank savings, and makes life safer."

The lawlessness encouraged in one direction by the cocktail lappers, says Mr. White, encourages lawlessness in other directions, notably lawlessness against property and property rights. Yet the rich have more to gain

by law and order than any other class in the community. Inevitably, according to Mr. White, they will come to see that their property is more important than their cocktails.

It is true that the rich are abetting lawbreaking, doing it conspicuously, and taking pride in their defiance, "like children making faces."

But it is also true that the puritan tradition, which motivates the heart and soul of American society, declares all excellence proven by the ownership of "flocks and herds." If through prosperity final importance is attained, and if prohibition is truly a means to prosperity, how shall Anglo-Saxons of the puritan inheritance continue, consistently, to reject it?

It is sometimes pointed out that our Puritan ancestors were themselves decidedly fond of good liquor and that a flaw consequently exists in the arguments of those who would convict them of rigid abstinence and the bequeathing of their own rigidity to later generations of men. But the reason why the Puritans were able to use liquor freely without inconsistency was because their social organization was not an industrial one. It is in the factory, particularly, that alcoholism queers profits.

It is to be presumed that much depends upon certain wealthy leaders of society seeing a great light upon the Damascus road along which they are traveling. Were they to frown upon booze a great change would surely come over the land.

These matters are of interest to the medical profession in so far as they introduce morbid psychology, affect the sickness rate, and relate to the use of alcohol at the bedside at the present time and in the future.

A Popular Fallacy

The prevailing notion on the part of the lay public that every case of alcoholic poisoning is chargeable to some toxic element other than ethyl alcohol is extremely naïve. Ethyl alcohol in beverage form in excess of physiologic limits both as regards the quantity imbibed and the time consumed in the imbibition is a perfectly competent poison. This simple truth seems to be entirely lost sight of by the popular mind, whose superstitions with respect to alcohol are nothing less than pathetic. The befuddlement is consciously furthered by interested forces and aided and abetted by a large part of the lay press. The rational use of alcoholic beverages in both social and clinical aspects is one thing; their abuse by half-wits is quite another thing. But the simple would be led to suppose, on reading the propaganda in the "wet" press, or listening to fools, that ethyl alcohol was in itself an inocuous substance and that the free drinking of "good liquor" involved no dangers.

All of which is additional evidence going to support the fact that the mental age of the populace is just about thirteen years, if not less.

One can hardly wonder at prohibitory attempts, for by what logic can one prove the amenability of the near-morons who constitute the majority of our people to temperance education, the only theoretical alternative to prohibition?

Tuberculosis in Infants

According to a study made by the Children's Service of the New York Tuberculosis and Health Association, many infants suffer from tuberculosis, develop a surprisingly high resistance to their infection, and not a few recover from the disease in its more advanced forms.

The incidence of tuberculous infection among hospital and clinic infants under two years of age was found to be 11.4 per cent (4,003 infants studied). Several had advanced tuberculosis.

The incidence of infection among Baby Health Station infants of the same age was fixed at 3 per cent (1,656 infants studied). Included in this group were clinic babies not the subjects of manifest tuberculosis.

The diagnosis depended frequently upon tuberculin skin tests and *x*-ray examinations.

The study tends to show that the infant's resistance to tuberculous *infection* is better than it was formerly supposed to be, but also that his lack of resistance to tuberculous *disease* appears to be relatively low.

Infants subjected to continuous exposure in the home have only a slight chance of escaping disease and death from tuberculosis.

Infants who receive their infection in a more casual and less continuous way show marked resistance to tuberculous infection.

In 45 per cent of the cases whose home conditions were investigated one or more cases of tuberculosis existed in the immediate family, or among lodgers, visiting friends or near neighbors.

It behooves the practitioner to keep in mind such facts as these in behalf of his infant charges.

(Concluded from page 38)

The Fluctuation in Blood Sugar During Eclampsia and Its Relation to the Convulsions

Paul Titus, Paul Dodds, and E. W. Willetts on the basis of the theory that pregnancy-toxemia are due to carbohydrate deficiency and a resulting disturbance in carbohydrate metabolism, the present treatment advocates high carbohydrate feedings and intravenous injection of hypertonic glucose solutions. (*Am. Jour. Obstet. and Gyn.*, July 1927). Repeated studies of the blood sugars during eclampsia reveal certain findings. The following are the conclusions derived:

1. Evidence is now offered to demonstrate that in eclampsia the disturbance in carbohydrate metabolism, heretofore assumed, actually exists.
2. This disturbed metabolism is apparently the result of the carbohydrate deficiency in pregnancy which we have previously postulated.
3. Contrary to the general opinion, hyperglycemia is not characteristic of eclampsia.
4. Serial blood sugar readings during an attack of eclampsia show wide fluctuations in exceedingly short intervals of time. Similar series in normal pregnant women near term show no such variations.
5. The convulsive seizures occur at levels which we have designated as "relative hypoglycemia," and are caused by the sudden drops in blood sugar now being reported. In this respect eclamptic convulsion are comparable to those of insulin hypoglycemia.
6. Following a convulsion there is usually a temporary rise in blood sugar, the usual physiologic response of the liver to muscular activity.
7. There exists a tendency toward remissions toward lower levels so that the general trend of the sugar content of the blood in eclampsia is downward, obviously the effect of exhaustion of reserved glycogen stores in the liver.
8. With the view that the convulsions of eclampsia are to be designated as a hypoglycemic reaction or manifestation, the use of insulin either with or without glucose in the treatment of this disease is unnecessary and contraindicated.
9. Intravenous injection of hypertonic glucose solution as originally recommended by one of us on the assumption of a glycogen deficiency, now has a definite basis for its proved therapeutic value.

643 St. Marks Ave.

Miscellany

Ethical Fee-Sharing Instead of Unethical Fee-Splitting*

ABR. L. WOLBARST, M.D.
New York

I propose that the principle of open and ethical fee-sharing be acknowledged and accepted by organized medical bodies as just and equitable, and therefore duly incorporated in the code of ethics. It shall be deemed a violation of the code for the specialist to withhold the doctor's rightful share of the total fee, and a similar violation for the doctor to demand or the specialist to offer more than the duly established proportionate share. This arrangement possibly can be made enforceable by legislative enactment, making the amount due collectible by law, and the violation of this principle punishable by the Board of Regents.

The fee-sharing principle naturally assumes that the fee paid the surgeon shall include the family doctor's fee, for his interest and services in the management of the case, and that the doctor shall not submit an individual bill. I am informed this is the customary method of procedure in Latin American countries.

The question of the particular portion of the total fee to be shared by the doctor is not essential at this moment. The details of the plan can be worked out. This percentage might be considered the doctor's approximate share of the responsibility for the management and outcome of the case. The point of the matter is not so much in the amount of the fee, as in the recognition of the fact that the doctor, retaining his interest in and sharing the responsibility for his patient, necessarily is entitled to share in the total fee, openly and ethically, without fear or favor and without ulterior motive.

I can see several outstanding advantages in this method of dealing with the problem.

First, the practitioner no longer would be the economic victim of medical specialization; to the contrary, he would enjoy a decidedly increased income, which would materially raise his standard of living, permit post-graduate study and travel and play, and thereby greatly increase his professional efficiency; this in turn would enable him to care for a larger proportion of his cases without the need of specialist assistance and thereby add still further to his professional prestige and economic independence.

Second, in return for his share of the total fee, the doctor would regard it as his obligation to his patient to keep in touch with the case, while the patient is under the care of the specialist, thus acting as a friendly and often necessary intermediary between the patient and the specialist.

Third, secret fee-splitting would be converted into openly recognized and ethically conducted fee-sharing, as it is conducted in the law, insurance and other professions.

Fourth, because of the improvement in the economic status of the family doctor, many would prefer to continue as general practitioners and thereby help materially to solve the problem of the vanishing family doctor, particularly in the outlying districts and in poorer localities where they are most needed.

Fifth, there would be no inducement to refer cases to a less competent specialist who "splits," as against the more competent who does not "split," because the doctor would share legitimately in the total fee in any event.

Sixth, the sordid commercialism at present associated with fee-splitting would be eliminated, because the consultant would be selected on merit alone, and not because of his dark-alley, go-getting methods.

Lastly, and most important of all, the patient would be the greatest beneficiary, because invariably he would be referred to a specialist of repute by preference, and to that extent would be assured the best medical service available.

—Abstracted from *Medical Alliance Review*, May, 1927.

Editor's Note.—Dr. Wolbarst's plan seems to be merely palliative and would still leave the practitioner without economic individuality—on the specialist's or surgeon's pay roll. The professional abscess requires a deeper incision—see editorial in our January issue.

The Medical Profession and Cosmetics

Not long ago newspapers contained the announcement that the *American Druggist*, a trade journal devoted to the pharmaceutic industry since 1871, had been added to the series of publications owned and controlled by the International Publications, Inc., of which William Randolph Hearst is president. Almost coincident with this announcement, the policy of that periodical seems to have changed from that of one which aimed at—even if it did not always hit—scientific cooperation between the pharmaceutic industry and the medical profession to one devoted largely to attacking scientific medicine and the usefulness of the physician. The issue for November, 1927, contains a somewhat satiric comment concerning the medical profession by O. O. McIntyre, whose first name has been alleged to be "Oracular." It contains also an article by one Alice (Hyphen) Esther Garvin of New Haven, Conn., who, according to the editor, "thinks the doctor's idea is all wet." Apparently, Miss Garvin has suddenly developed the quaint notion that the American Medical Association is endeavoring to secure legislation which will make it necessary for druggists to sell cosmetic preparations only on prescription. This extravagant straw man the lady then devastates with ridicule. The American Medical Association is holding strictly to its policy of protection of the public in all matters related to health, asking only that the presence of dangerous ingredients in the few cosmetic preparations that contain them be so indicated as to give the public the opportunity of knowing what risks it may run in using them. Miss Garvin's article is full of ridiculolus insinuations relative to the motives of the medical profession, of misstatements relative to medical organizations, and of warnings not justified by any actual evidence. Perhaps the *American Druggist* is trying to build circulation by sensationalism—a process not unknown in the other publications of William Randolph Hearst.

—*Current Comment, J. A. M. A.*, Nov 19, 1927.

Glass Houses

The first glass school will be built in Berlin early in 1928. Ferro-concrete will be used for the foundations, but windows on both sides of the walls will be so wide and so high that lessons will be given in rooms as light and airy as possible. It is obvious that a building very much after the style of the Crystal Palace in London is in view, equipped with the most modern type of gymnasium with glass walls, and a glass-covered yard for play. This building is for the primary and lowest grade secondary pupils of one of Berlin's western suburbs.

The Physician's Library

Surgical Diseases of the Gall-Bladder, Liver and Pancreas and Their Treatment. By Moses Behrend, A.M., M.D., F.A.C.S., Attending Surgeon to the Jewish and Mt. Sinai and Northern Liberties Hospitals, etc.; with 101 illustrations, some in colors, including many full page plates; pp. 278, including a bibliography and an index. F. A. Davis Company, Philadelphia. 1927.

This monograph is based largely upon the author's many important contributions to the periodic literature of the subject. It is a sufficiently complete presentation of surgical considerations relating to the upper abdominal triad composed of the gall-bladder, liver and pancreas. Development, anatomy, physiology, pathology, symptomatology, diagnosis, prognosis and surgical treatment of lesions occurring in these organs are adequately discussed, while one chapter is devoted to anesthesia and another to the results of experimental ligation of the hepatic artery in animals.

The Specialties in General Practice. Compiled by Francis W. Palfrey, M.D., in Collaboration with Fourteen Associates. Pp. 748 including index. W. B. Saunders Company, Philadelphia and London. 1927.

The term indispensable may be employed in relation to Palfrey's new book with exceptional emphasis. No general practitioner should be without it. It will enable him to treat skilfully many patients now sent unnecessarily to the specialist, while it will make more certain the reference to the specialist of cases that overtax the general practitioner's resources. Although the fourteen authors are specialists the slant is that from which the general practitioner views things. Palfrey's editorship insures this. Those who know his "Art of Medical Treatment" will understand his peculiar competence to edit a book like the one under discussion. The eleven monographs which make up the book cover the *commoner* conditions encountered in dermatologic, genito-urinary, gynecologic, rhinologic, laryngologic, obstetric, ophthalmologic, orthopedic, otologic, pediatric, psychiatric and surgical practice. All that the doctor would wish to know, for *practical* purposes, concerning definitions, clinical descriptions, etiology, pathology, diagnosis and treatment, and all that he would wish to inform himself upon with respect to anatomic, physiologic, hygienic and prophylactic data, may be found here in admirably arranged form. It furnishes a means whereby one can keep a good perspective as regards the specialties in the midst of increasingly complex knowledge and practice. Here one has about everything outside of internal medicine that one needs to be familiar with, and the rows of books by specialists on one's library shelves that do not, after all, reflect the general practitioner's viewpoint, and that one doesn't look into very often, are likely to become even more remote. Get Palfrey and feel that here at last is a general practitioner's honest-to-goodness textbook on the specialties. The Schematic Tabulation of the Treatment of Fractures is alone worth the price of the book to the doctor. Why, in the name of Galen, Paracelsus, Boerhaave, Sydenham and Jehovah have we not had such a modern compilation before?

A Text-Book of Medicine. By American Authors. Edited by Russell L. Cecil, A.B., M.D., Assistant Professor of Clinical Medicine in Cornell University, etc., and Foster Kennedy, M.D., F.R.S.E., Professor of Neurology in Cornell University, etc.; pp. 1500, including an index; W. B. Saunders Company, Philadelphia and London. 1927.

Some medical historian, writing about one of the books of that voluminous author, Galen, has said that it makes the Holy Bible look like a pamphlet. In point of size, Cecil's Text-Book of Medicine makes Galen look like a leaflet. But in this case size is proportionate to excellence.

We seem to be reverting to the situation that existed in ancient Egypt, where specialization, according to Herodotus, was carried to a point where there was a physician for every part of the body. History is repeating itself, for, as Cecil says, "Some of our ablest practitioners even devote themselves in great measure to one disease," and this text-book on internal medicine is deliberately based upon a refined specialism of this type. The one hundred and thirty contributors have been chosen because of their individual preoccupation with particular subjects. This is sound doctrine to-day, when it is "almost impossible for a single individual to master the entire field."

The classification of subjects, style of presentation, and thoroughness of discussion are all admirable. No imaginable ailment in the great field of internal medicine seems to have been overlooked or slighted, and there is an exhaustive index. Cecil's Medicine is an authoritative treatise covering the entire field of internal medicine, and as such will furnish the practitioner with an indispensable means of orientation whereby the integrity of one's perspective may be properly maintained. Thus history repeats itself again, for this was the service rendered by Celsus to the practitioners of the first century. Therefore we may dub Cecil a modern Celsus, which is praise enough.

Ophthalmoscopy, Retinoscopy and Refraction. By W. A. Fisher, M.D., F.A.C.S., Chicago, Ill., Professor of Ophthalmology Chicago Eye, Ear, Nose and Throat College; formerly Professor of Clinical Ophthalmology, University of Ill., etc. Second edition, revised and enlarged, with 260 illustrations including 48 colored plates. Pp. 291 including index. F. A. Davis Co., Philadelphia. 1927.

The author believes that ophthalmoscopy and the fitting of glasses belong to the general practitioner and that the acquirement of the necessary practical and theoretical knowledge is easy, interesting and within the reach of all. The section on ophthalmoscopy contains 24 colored fundus plates and duplicates of each for use with the schematic eye. There is a short description of each plate and paragraphs on prognosis and treatment. There are short chapters on visual fields and on glaucoma. The author states that the general practitioner can give his glaucoma patients proper treatment provided he can make a diagnosis.

A new chapter has been written on Newer Methods of Refinement in Ophthalmic Diagnosis by Robert von der Heydt, M.D., of Chicago. It contains short descriptions of the red-free light of Vogt, the Gullstrand binocular ophthalmoscope, and microscopy of the living eye with slit-lamp illumination, and discusses their uses.

C. E. Kjos.

An Introductory Course in Ophthalmic Optics. By A. Cowan, M.D., Assistant Professor of Ophthalmology in the Graduate School of Medicine, University of Penn. Contains 121 illustrations, many in colors. Pp. 262, including index. F. A. Davis Co., Philadelphia. 1927.

The author's object in writing this book was to present a working knowledge of ophthalmic optics and in such a way that it could be followed by those having only an elementary knowledge of mathematics. The subject matter presented here is not interesting reading to most students or practitioners and consequently will be well understood by only the few who specialize in ophthalmology. This book is well written and provided with many illustrations and numerous examples and experiments to be performed that make the subject a bit more interesting as well as clear.

C. E. Kjos.

Diseases of the Mouth. By Sterling V. Mead, D.D.S., Professor of Oral Surgery and Diseases of the Mouth, Georgetown Dental School, Professor of Diseases of the Mouth, Georgetown Medical School, and Oral Surgeon to Georgetown Hospital, etc. 578 pages, including index; 270 original illustrations in the text and 29 full page color plates. C. V. Mosby Co., St. Louis, 1927.

This book serves excellently the purpose of establishing on a more intimate basis co-operation between dentists and physicians. In these days of earnest consideration of oral sepsis as a factor in many systemic states, and of the latter as causes of buccal lesions, such co-operation cannot be too intimate. Fundamental principles and practice are well presented. Naturally, the work is rich in excellent radiograms. The chapter on the relationship of oral sepsis and System Disturbances possesses special interest for the practitioner of medicine, but as a thorough monograph on the mouth no part of the book lacks importance to physician and surgeon alike.

Tobacco and Physical Efficiency. By Pierre Schrumpf-Pierron, M.D., New York. Paul B. Hoeber. MCMXXVII.

This important little volume is published under the auspices of The Committee to Study the Tobacco Problem, and Dr. A. Lambert, the president, has written a foreword calling attention to the fact that while the Committee has sponsored several other books written from the standpoint of original investigation and laboratory work, the present effort is only a digest of the combined literature, as well attested by the fact that no less than 70 of the 126 pages are devoted entirely to a list of references to works consulted. Dr. Lambert's foreword is supplemented by a preface from the pen of Dr. Vaquez, the well known cardiologist of Paris. Dr. Schrumpf-Pierron, who is on the faculty of the University of Cairo, is the compiler of the work and of the foreign bibliography, the American references having been supplied by Dr. E. L. Fisk. In regard to the burden of the book there is of course a general agreement as to the possibility and actuality of tobacco abuse, but as far as the incidental or moderate use of the weed is concerned, the subject is left undecided with a warning against fanatical intolerance as tending to antagonize the benefits of a crusade against overindulgence.